The Health-Care Products and Services Market in China

February 2001

MARKET RESEARCH CENTRE

Market Reports are available online at:

www.infoexport.gc.ca

Department of Foreign Affairs and International Trade
Ministère des Affaires étrangères et du Commerce international

Canada

Government of Canada | Gouvernement du Canada

The Health-Care Products and Services Market in China

February 2001

(*Également disponible en français sous le titre,*
Le marché des produits médicaux et des services de santé en Chine)

Prepared by the
Market Research Centre
and the
Canadian Trade Commissioner Service

© Department of Foreign Affairs and International Trade
(FaxLink no. 42171)

Canada

Report prepared by the Market Research Centre
Market Support Division (TCM)
Department of Foreign Affairs and International Trade
125 Sussex Drive, Ottawa K1A 0G2
Fax: (613) 943-1103
E-mail: mrc@dfait-maeci.gc.ca

The Market Research Centre produces a wide range of market reports by region and sector for Canadian exporters. These reports are available from:

— the FaxLink Domestic service (613-944-4500); and
— DFAIT's InfoExport Internet site (http://www.infoexport.gc.ca).

The Government of Canada has prepared this report based on primary and secondary sources of information. Readers should take note that the Government of Canada does not guarantee the accuracy of any of the information contained in this report, nor does it necessarily endorse the organizations listed herein. Readers should independently verify the accuracy and reliability of the information.

THE HEALTH-CARE PRODUCTS AND SERVICES MARKET IN CHINA

Team Canada Inc • Équipe Canada inc

EXECUTIVE SUMMARY

China's total health industries market was valued at $67.1 billion[1] in 1999, representing roughly 5% of the nation's gross domestic product (GDP). As China's economy continues to flourish and as expansion of the elderly and middle-class segments of the population fuel demand, the market for cost-efficient, high-quality health-care products and services is certain to increase.

Intensive government investments in health-care reform in recent years is contributing to growth in the market for more advanced medical technology, particularly in China's major urban centres. The Chinese government's firm commitment to improving the quality and accessibility of medical care across the country—while simultaneously addressing burgeoning health-care costs—has led to interest in products that contribute to an overall reduction in public expenditure. Among these products are home diagnostic and monitoring kits, minimally invasive surgical (MIS) tools and preventive health treatments. Similarly, these efforts have increased demand for novel solutions such as telemedicine, computerized patient record systems and health information networks. Other areas with strong commercial potential include products used in the prevention or treatment of cardiovascular disease, cancer, and respiratory ailments, including natural remedies that complement traditional Chinese medicine.

Canada has a relatively weak position in the Chinese health-care market. 1999 Canadian exports of medical devices and pharmaceuticals to China totalled $14.8 million, representing less than 1% of the total import market. Of Canadian exports in this category, X-ray apparatus, magnetic resonance imaging (MRI) apparatus, medical and veterinary instruments, vitamins, and medicaments for retail sale accounted for a significant portion of the total. Canadian participants in the Chinese health-care market face competition primarily from the United States and Japan, which hold import market shares of 34% and 25%, respectively.

China remains a complex and frequently changing marketplace, making it imperative for most foreign exporters to seek Chinese partners to facilitate navigation of the local trade environment. It is also beneficial for companies interested in accessing this

[1] All monetary amounts are expressed in Canadian dollars, unless otherwise indicated. The conversion rate to Canadian dollars is based on IDD Information Services, *Tradeline*, July 2000.

potentially lucrative market to view China as a collection of regional markets, each with their own unique trade practices, purchasing policies and regulatory environments. These regional markets interplay with an intricate national framework of bureaucracies, regulations and policies, making market access a challenge for new exporters. Canadian companies are advised, therefore, to develop a thorough knowledge of the market prior to undertaking business transactions in the region.

TABLE OF CONTENTS

EXECUTIVE SUMMARY 4

MARKET OVERVIEW 8
- Medical Devices 10
- Pharmaceuticals 11
- Health Services/Informatics 13
- Key Factors Shaping Market Growth 14
  - Medical Devices 15
  - Pharmaceuticals 15
  - Health Services/Informatics 16
- Opportunities 17
  - Medical Devices 17
  - Pharmaceuticals 18
  - Health Services/Informatics 19
  - Actual and Planned Projects 19

COMPETITIVE ENVIRONMENT 21
- Local Capabilities 21
  - Medical Devices 21
  - Pharmaceuticals 22
  - Health Services/Informatics 24
- International Competition 25
  - Medical Devices 25
  - Pharmaceuticals 25
  - Health Services/Informatics 26
- Canadian Position 27
  - Medical Devices 27
  - Pharmaceuticals 27
  - Health Services/Informatics 27
- Competitive Advantage through Canadian Government Policies and Initiatives 28

PRIVATE-SECTOR CUSTOMERS 29

PUBLIC-SECTOR CUSTOMERS 30
- Government Organizations 31
- Government Procurement Regulations 31

MARKET LOGISTICS 32
- Channels of Distribution 32
  - Direct Sales 33
  - Distributors and Wholesalers 33
  - Agents and Sales Representatives 34
  - Trading Companies 34
  - Joint Ventures 34
- Market-entry Considerations 35

China's Accession to the World Trade Organization 35
Suggested Business Practices 36
Intellectual Property Rights Protection 37
Import Regulations 37
Local Standards, Certificates or Registrations 39
Medical Devices 39
Table 1. SDA Inspection Centres 40
Pharmaceuticals 41
Health Services/Informatics 42
Export Credit Risks, Restrictions on Letters of Credit, Currency Controls 42

PROMOTIONAL EVENTS 44

KEY CONTACTS AND SUPPORT SERVICES 46
Canadian Government Contacts 46
Canadian Industry Contacts 48
Canadian Commercial Banks in China 48
Chinese Government Contacts 49
Chinese Industry Associations 52
Prominent Research Centres 52
Selected Hospitals 53

BIBLIOGRAPHY 55

OTHER REFERENCE MATERIAL 59
Useful Internet Sites 59

Appendix A: DEMOGRAPHIC INDICATORS OF MARKET SIZE 62
Table 2. Population by Age Category, 1999 62
Table 3. Population by Region, 1998 62

Appendix B: IMPORT DATA 63
Table 4. Imports of Medical Equipment, Devices and Supplies, 1997-1999 63
Table 5. Imports of Pharmaceutical Products, 1997-1999 64

Appendix C: END-USER DATA 65
Table 6. Institutions and Beds, by Type, 1999 65
Table 7. Health-care Establishments by Region, 1997-1998 65

THE HEALTH-CARE PRODUCTS AND SERVICES MARKET IN CHINA

Team Canada Inc • Équipe Canada inc

MARKET OVERVIEW

China has undergone an astonishing transformation over the last decade in its bid to join the ranks of the world's leading market economies. China's stringent economic and industrial reforms have fuelled unprecedented growth rates and have eased its full participation in the global economy. China's GDP was recorded at an impressive $1.5 trillion in 1999, with GDP growth rates for 1999 and 2000 estimated at a collective 14.2%. With a positive economic and international trade forecast beyond 2000, and with a population of close to 1.3 billion, China appears to be quickly developing into one of the world's most attractive markets for foreign exporters.[2]

Although commercial activity is naturally concentrated in China's major urban centres, often the rural and heavily populated areas represent the greatest need for equipment and services. Population density is highest in Shanghai (Eastern China), Tianjin (Northern China), and Beijing, while the provinces of Sichuan (Southwestern China), Henan (South-central China), Jiangsu (Eastern China), and Guangdong (South-central China) have the largest populations. The urban population accounts for approximately one-third of all Chinese residents. (See **Appendix A** for more detailed demographic data.)

The Chinese market is largely decentralized, with individual provinces operating separate political and economic bureaus. This practice is particularly true for the health-care system. Increasingly, provincial and municipal health bureaus, under the supervision of the Ministry of Health (MOH),[3] are exercising independent authority over the procurement and allocation of large-scale medical and hospital equipment for health-care facilities in their jurisdiction. Responsibility for the management of public hospitals also generally falls to the provincial or city governments. As a result of this high level of segmentation, overlapping between regions and between tiers of

[2] Canadian exporters should note that although there is vast potential in the rapidly opening Chinese market, investments are normally considered long-term and immediate benefits or profits from trade in the country may not be forthcoming. Companies interested in accessing the market are advised to take a cautious approach to introducing their products and services to China.

[3] For contact information regarding key organizations mentioned in this report, see **Key Contacts**.

government frequently occurs. It is also common to find vastly different systems of organization and, hence, varying trade environments, in different parts of the country.

While urban centres have certainly benefited from health sector reform, rural areas have actually witnessed an attrition in the number of health-care establishments over the last several years. Although China's rural population represents close to 70% of the country's total, a full 80% of the national health-care budget is allocated to urban centres. Additionally, 80% of this amount is allocated to major hospitals in China's most prominent cities (eg. Beijing and Shanghai). As a result, health-care delivery remains underdeveloped in rural and remote areas. While an estimated 90% of rural residents have access to some level of health-care treatment, the services are usually quite basic. Rural health-care, for example, is sometimes administered by China's so-called "peasant doctors"—farmers with minimal medical training who are assigned as community health workers.

Decentralization of health-care administration and the dissolution of commune-based health and medical insurance systems (namely, the Rural Co-operative Medical System), has created a crisis situation in many rural areas. Rural areas are facing a paucity of health-care professionals, hospitals, clinics and related equipment. Also, rural populations generally have different health concerns than do urban communities. Infectious diseases are still the primary cause of death in many remote rural areas, compared with chronic illnesses (such as cardiovascular disease) in urban and suburban areas. Therefore, rural areas have different health-care needs than urban centres.[4] While government bureaus and health-care institutions in urban and rural areas may equally be seeking to implement hospital automation and other medical informatics technology, specific applications of these technologies may vary greatly. In remote areas for example, telemedicine may offer a means to deliver services that rural clinics are not able to offer; whereas urban hospitals may be seeking to purchase equipment and services that would ease administrative tasks and significantly advance the quality of services provided. As a result of the structure of the payment system in China, major urban hospitals—which attract more patients and thereby increase revenues—are also in a stronger position to purchase higher-end medical equipment and devices than rural or small community health centres.

China's total health-care expenditure reached a value of $67.1 billion in 1999 and is expected to increase rapidly over the next decade unless health reforms are

[4] The leading cause of death in China's urban areas is cancer (22.6% of all deaths), followed by cerebrovascular disease (22.3%), heart disease (17.3%) and respiratory conditions (6.3%). In rural areas, respiratory diseases are the leading cause of death (22.9%), followed by cerebrovascular disease (18.2%), cancer (17.0%) and heart disease (12.9%). However, while tuberculosis (TB) is practically absent in urban China as a cause of death, in rural areas TB is responsible for 1.4% of all deaths. Other infectious diseases account for a further 1% of all deaths in rural areas—a rate much higher than in urban centres.

successfully implemented on a national basis. Health expenditure stems from a wide variety of sources, with central and local governments accounting for roughly 10% of the total. Insurance schemes, including the newly established government scheme and remnants of the former rural co-operative schemes, represent a further 40%, while private spending accounts for the largest portion at 45% of the total. Rural populations tend to make more out-of-pocket payments due to lower rates of subscription to private insurance schemes and less government funding than in urban centres. Other sources of funding include local enterprises, village authorities, non-government organizations and the armed forces. Government bureaus at all levels are keen to adopt technologies that contribute to an overall reduction in health-care costs including automation, data storage/transmission and management systems commonly employed in Canadian hospitals and clinics. There is significant interest, as well, in technology supporting minimally invasive surgical procedures, home health-care equipment and preventive health therapies.

Medical Devices

China's medical devices[5] market was worth $2.2 billion[6] in 1999, ranking it as the 11th largest in the world and the second largest in Asia after Japan. For specific high-technology products such as computerized tomography (CT) scanners, nuclear medicine, MRI and ultrasound equipment, the Chinese market is the third largest on a global scale. Although growth rates vary drastically according to market segments, it is projected that the sector as a whole will grow at an average annual rate of 10% to 2002. Imports, which were valued at $1.4 billion in 1999, are expected to continue increasing their share of the total Chinese medical device market. In the first five months of 2000, China imported $445.1 million worth of medical instruments, representing an increase 45.1% from the same period last year.

In 1999, medical and surgical instruments formed the largest import category comprising 55% of the total import market. Growth in demand was particularly strong for imported ultra-violet/infra-red apparatus and for syringes, catheters and needles, with 1999/1998 rates of change recorded at 217.4% and 104%, respectively. In 1999, electrocardiograms and other electrodiagnostic equipment accounted for 21.5% of all imports, with MRI equipment, ultrasonic diagnostic apparatus and patient monitoring apparatus leading the segment.

X-ray apparatus represents the second leading import category, accounting for 31.9% of the total in 1999 and representing an increase in imports of 46.2% from 1998. Significant growth (120.5%) was recorded for CT apparatus, while imports of X-ray

[5] For the purposes of this report, this term includes medical technology, equipment and supplies.

[6] Chinese customs and production figures place this figure at $7.4 billion. However this value includes non-medical device production at medical manufacturing plants.

apparatus for surgical use grew at a rate of 48.1% over 1998's figures. In the same period, demand for imported ABC radiation units and dental use X-rays dropped slightly, decreasing by 36.7% and 19.7%, respectively.

There is also strong commercial potential in the orthopaedic appliances and artificial body parts segment of the Chinese medical device market. The size of the import market for the segment as whole has nearly quadrupled since 1997, reaching a total value of $54 million in 1999. The import market for hearing aids, in particular, has grown at an astounding rate over the last three years. Between 1997 and 2000, imports of hearing aids increased by a phenomenal 1644.4%, reaching a value of $15.7 million at the end of 1999.

While the potential for the medical device market is vast, health-care provision, and hence opportunities for foreign suppliers, varies greatly for each region in China. In general, the more advanced hospitals and health-care establishments, which are in a stronger position to purchase higher-end medical equipment and technology, are located in the country's major urban centres (namely Beijing, Shanghai, Guangzhou, and Tianjin). However, China's economic growth is contributing to enhanced capacity for health-care centres, not only in urban centres but in suburban and even some rural areas to pay for previously inaccessible western products. Hospitals in both urban and rural cities are keen to invest in modern equipment in order to attract more patients and thereby generate more revenue. At present, there are approximately 300 MRI units, 2300 CT scanners, 300 linear accelerators, 2500 colour ultrasonic B units and 15 gamma knives in hospitals throughout the country.

Pharmaceuticals

China's pharmaceutical market is currently worth an estimated $33.5 billion and by 2005 is expected to be among the top ten pharmaceutical markets in the world. The country's per capita pharmaceuticals consumption has been rising steadily over the last several years, increasing from $8.80 in 1993 to $16.73 in 1999. Imports have been growing at a faster rate than per capita consumption, demonstrating that foreign suppliers have been increasing their share of China's pharmaceutical market in recent years. However, domestic protection through the country's reimbursement system is expected to have a negative impact on demand for imports over the short to medium term. In 1998, 49% of the total market for pharmaceuticals was served through imports or Sino-foreign joint ventures.

In the first five months of 2000, imports of traditional Chinese medicine, herbal medicine and Western medicines rose 33.2%, 31.1% and 12.2% respectively, over the same period in 1999. Imports of bulk pharmaceuticals increased by a relatively modest 1%. However, growth in imports of finished drugs declined to 9.5% in 1999, from 41.6% in the previous year. Antibiotics account for the largest share of the import market at 11.6% of the import total in 1999. Key growth areas in the Chinese pharmaceutical

market include gastrointestinal and metabolic products, demand for which increased by 17% in 1999. In the same year, these products accounted for a combined 14.2% of the total imported finished drugs market. Injectable cephalosporin (ceftriaxone) is the leading product in terms of sales to major urban hospitals, while anti-infectives represent another area with strong commercial potential. In 1999, of the 1408 therapeutic products approved for sale in China, 535 were for anti-infectives. A further 49.5% of approvals were for western synthetic drugs.

Asian culture strongly encourages the use of preventative medicine. Hence, there is also a large market in the region for non-prescription products that claim to promote overall health. Over-the-counter (OTC) products in the Asian market mainly comprise vitamins and dietary supplements which account for 56.4% of sales in this category. The overall nutritional products market in the Asia-Pacific region is expected to have a value of $71.9 billion in 2002, an increase of 62% over 1997 figures. Nutraceutical sales alone are expected to be worth $19.2 billion in 2002, up from $15.5 billion in 1997. The vast majority of these sales will be made in China, Japan and Korea. The dietary supplements market in China, which includes general health foods, is estimated to be worth $7.6 billion and is projected to grow to $18 billion by 2010. The dietary supplements segment is considered to be the fastest growing segment of the Chinese health-care market.

Biopharmaceuticals

China has invested significantly in biotechnology research over the last five years and continues to view the sector as a potential growth sector for the nation's economy. In the Ninth Five-Year Plan issued in 1995, the Government affirmed its commitment to fostering innovation in medical biotechnology, particularly in the areas of biopharmaceuticals and vaccines. China's market for biotechnology-based drugs is currently estimated to be worth approximately $4.5 billion, an increase from $1.8 billion in 1997. Key areas of interest, in terms of both domestic research and development (R&D) efforts and imports, include interferon, IL-2, TNF, t-PA, hepatitis B vaccine and human growth hormones.

Shanghai, Beijing and Guangzhou are the leading cities for biotechnology R&D in the country. China also has plans to develop Hangzhou, Zheijiang Province and Pudong, Shanghai as hubs for biotechnology and pharmaceutical production. Beijing Global Biotechnology Centre, under the auspices of the Academy of Sciences, has invested heavily in the development of an international biotechnology research park in Hangzhou, reported to be the largest of its kind in China. In Pudong, development of a pharmaceutical complex nicknamed, "The Pharmaceutical City of China," has strengthened the area's capacity in pharmaceutical R&D. Research activities in Pudong are focussed on cardiac-cerebral vascular drugs, anti-infectives and anti-cancer drugs, fertility-regulating drugs, anti-aging drugs, digestive trace drugs, and vitamins and nutrition preparations.

The High Technology R&D Program at the China National Centre of Biotechnology Development allocates 32% of its total funding to pharmaceutical research. Foreign companies are only eligible for these and other public funds and tax incentives if they are engaged in a joint venture with a local entity. Local laws and regulations concerning foreign investment strongly encourage technology transfer, although other forms of cooperative research are also actively promoted. China's keen interest in developing its biopharmaceutical potential indicates clear opportunities for Canadian companies to contribute their knowledge and technology to this budding sector. There are opportunities, as well, for Canadian firms to engage in joint manufacturing arrangements, assist in clinical trials, offer data management services and supporting technology, and market consultation services related to preparing products for commercialization.

Health Services/Informatics

The Chinese health services sector is estimated to be worth approximately $31 billion. Opportunities for foreign companies in direct health-care delivery and hospital management are limited in China, although a number of Sino-foreign joint-venture hospitals and clinics are in operation in the country. On July 1, 2000, the MOH and the Ministry of Foreign Trade and Economic Co-operation (MOFTEC) in China amended laws governing Sino-foreign joint ventures involving hospital and clinic construction and management. Foreign companies seeking to establish a health-care centre in China in collaboration with a local firm must still apply for approval by the MOH and MOFTEC. However, under the new guidelines, the MOH and MOFTEC will only approve a venture if it involves internationally advanced medical equipment, technology or management and thereby significantly improves the level of health-care service in a region or provides a service not already available in local hospitals. The level of investment in a joint-venture hospital must be valued at a minimum of $3.6 million, a 30% share of which must be Chinese. Furthermore, unless the hospital is introduced in central and western regions, or in remote and less developed areas, the term of the joint venture must not exceed 20 years. Currently, there are approximately 200 joint-venture hospitals and clinics in China, 78 of which have official permits.

The precise size of China's health-care delivery and management systems market is difficult to assess largely due to its relative incipience and the broad range of products and services it comprises. In-depth statistical analysis on the subject is extremely scarce. However, it is apparent that demand is growing in the areas of medical informatics and hospital administration, particularly for health-care records management, integrated health systems development, professional training, and remote consultation and diagnosis support. Growing demand is largely a result of a rapidly expanding IT&T market in China and significant investments by the central government in health sector reform. Increasingly health-conscious patients are becoming more demanding of high quality treatment, variety in health delivery options and greater access to reliable health information. As a result, interactive diagnostics

and monitoring through the Internet is expected to become a trend in modern urban centres.

Key Factors Shaping Market Growth

A number of factors have been identified as having a major impact on China's health-care industry, including increasing cost-containment pressures, large-scale health sector reform, an aging and growing population, an expanding middle class,[7] and a rapidly developing IT&T market in China.

Unless the central and municipal governments are successful in implementing broad-based cost-saving measures, health expenditure in China could skyrocket beyond the means of the state or the population to fund it. The situation is being compounded by rural-urban migration, which is placing even greater pressure on urban health-care systems. It is projected that health-care expenditure could amount to 10% of China's GDP by 2010—and 25% by 2030—if actions are not taken to eliminate inefficiencies in the system and address priority issues. However, the World Bank predicts that health spending could be limited to 6%-7% of GDP by 2010 and 10%-13% in 2030, if health reforms are properly implemented. The World Bank has advised the Chinese government to make a stronger commitment to disease prevention, to modernize hospital payment systems and to ensure more efficient utilization of medical technology in hospitals and clinics. Demand for more advanced medical equipment and technology, including medical informatics and hospital management systems, is expected to increase as a result of the World Bank's counsel as the Chinese government recognizes the applicability of these technologies to the concerns raised.

In an attempt to address burgeoning costs, the MOH has already instituted a number of reforms over the past several years in both the urban and rural health-care systems. One of the Ministry's major initiatives aimed at reducing costs has been the reinforcement of price controls and reimbursement lists. The reforms are expected to have a greater effect on foreign-produced and joint-venture goods as domestic products continue to benefit from a high degree of protection, namely through the National Essential Drug Bulletin. The Bulletin lists pharmaceuticals that are approved for state reimbursement and promotes domestic companies by naming only those foreign-manufactured drugs that do not have a domestically produced equivalent. These actions could have a dramatic effect on the profitability of imported medical devices and pharmaceuticals.

[7] Demographic projections indicate that the middle class will number 500 million by 2010; however, exporters should also note that a middle income in China refers generally to only 2,000 Renminbi or approximately $400 per month.

Although China is not facing an aging population to the same extent as in many western nations, rising life expectancy may have a longer-term effect on the health-care market in China. At present, only 6% of the population (84.8 million) is over the age of 65; however this latter figure could increase to 13% by 2025. As the population ages, there is expected to be a greater demand for both home care and clinical products and services that cater to the specific needs of older people. In addition, a greater number of elderly people will be living alone and will need devices to assist them in their daily activities, such as bathing and walking. Other demographic shifts, such as a growing number of middle-class residents, are also contributing to an increased demand for certain products. Rising income levels among the middle class is likely to contribute to increased demand for OTC products perceived to have preventive health qualities.

Medical Devices

Since 1999, the MOH has been involved in a community-based health-care development project that may impact significantly on the distribution of medical devices and equipment in the public-sector. The pilot project, which is being undertaken in 70 cities, aims to encourage greater use of community health-care centres and general practitioners. It is hoped that the project will reduce pressure on hospitals by curbing the common practice of using hospitals for minor complaints and promoting preventive health measures. The new health-care system is expected to be fully established by 2010. If the Government's efforts are successful, demand for new equipment may lessen slightly at the hospital level as hospitals experience diminishing in-patient and out-patient visits. At the same time, demand for medical supplies and some diagnostic equipment is expected to increase significantly at newly established community health centres. Distributors of medical products may need to modify their marketing practices to accommodate this increased level of patient care outside of the traditional hospital distribution network.

Pharmaceuticals

Chinese consumers are very active in their own personal health and well-being, contributing to growing demand for OTC pharmaceutical products with preventive health qualities. The great importance placed on good health in Chinese culture has also fuelled growth in demand for Western medicines. The Chinese have relied on the curative properties of herbal medicines for centuries and have now invested the same faith in the power of modern preparations, including foreign-produced drugs, to heal or prevent illness. Modern medicines have not superceded traditional remedies; rather, they are often prescribed in conjunction with herbal or Chinese treatments.

The Chinese government is strongly encouraging the development of commercial ventures from existing state-run medical and biotechnology research institutions. The Government's efforts are part of a general reform plan for a broad spectrum of scientific disciplines. More than 100 scientific research institutes operating under the auspices of

the State Council will be handed over to the private sector by the end of 2000, following the conversion of 242 state-run research organizations into commercial ventures in 1999. It is hoped that the development of commercial ventures will attract more research funding and will increase the number of market-oriented projects being undertaken at the institutes.

Biotechnology has been targeted as one of the six key industrial technologies intended to fuel growth in the economy. Major investments in a number of major cities in China, including Shanghai and Beijing, is contributing to growing interest in biotechnology joint-ventures with Western organizations as well increasing demand for biotechnology-related consumables, R&D equipment and supporting technology. Government investments in biotechnology R&D are expected to significantly enhance China's capacity for pharmaceutical production, shifting China's emphasis from bulk pharmaceuticals to more sophisticated prescription and OTC products. Provided China is able to enlist the aid it needs to commercialize R&D output, China's focus on non-branded generics may also shift. This situation could have both a negative and positive impact on foreign suppliers of brand-name pharmaceuticals and biopharmaceuticals. While it may increase opportunities for foreign research organizations and pharmaceutical producers in the form of joint-ventures and other Sino-foreign partnerships, it may threaten the position of imported brand-name products, since China offers a high level of protection to domestic producers. Foreign participation in the Chinese pharmaceutical market depends to a great extent on China's limited production capacity. Accordingly, once China's production increases, enabled through technology-transfer and R&D investments, foreign suppliers' share of the total market may decrease.

Health Services/Informatics

There is currently enormous pressure on the public health-care system in China, with 500 million hospitalizations and 2.1 billion patient visits to the country's hospitals and clinics in 1999. In an effort to share the burden of health-care costs, the central government is instituting a new medical insurance program for urban workers, which is expected to be fully established by the end of 2000.[8] The program, which will provide coverage for approximately 150 million public- and private-sector employees, will be funded predominantly through both employee and employer contributions. Shanghai is being viewed as a model of success for implementing a similar plan. Roughly 98% of industrial enterprises in the city were participating in a unified medical insurance scheme in 1999, with a resultant 14% decrease in medical expenditure growth from the previous year. The new insurance program will necessarily increase demand for

[8]By the end of June 2000, approximately 146 cities across China were participating in the scheme (covering a total of 14 million urban residents), with the remaining 58% of the cities planning to fully implement the medical insurance system by the end of the year.

products and services that aid administrators with monitoring, collecting and managing funds, as well as storing and accessing patient records.

Overall, modifications in the health sector are leading to increased demand for higher quality and more varied services at lower costs. Under the reform plan, the Government plans to reduce the number of peripheral hospital personnel, invest more heavily in the quality of personnel and services, promote the enhancement of hospital management, and address the cost of medical care and medical technical services. These initiatives will increase the need for hospital and clinical automation, professional training and continuing medical education, and cost-saving advanced medical technology.

Of significant interest to medical informatics providers, new legislation in China is now permitting organized health information systems, namely for computerized patient records (CPRs). CPRs are even being encouraged by the Government as a means to provide a research and evaluation base for longitudinal studies. Institutions are increasingly turning to more sophisticated medical record systems, in a trend that has been referred to as the "medical knowledge revolution." The next phase is expected to be implementation of nationally standardized CPRs, "intelligent records" (which would enable assessment of quality of care and individual patient needs), and more integrated health information networks across the country, concomitant with training programs for implementation and usage of medical informatics applications. Experts in the Chinese medical community predict that future health care will commonly involve such technologies as interfacing with data (including images), telemedicine for consultations and direct home care, surgical robots, and virtual reality medical training and education. Due to its vast size and population, China is clearly among the Asian countries most in need of such telehealth/telemedicine technologies.

The phenomenal growth in China's IT&T market is helping pave the road for rapid development of the medical informatics sector. Data communications investments are expected to grow at an average annual rate of 16% through 2003. Similarly, rapid growth in Internet usage (with more than 600 Internet service providers and over 15 million Internet users) is creating opportunities in on-line professional training, health information provision, product marketing and remote health-care delivery management.

Opportunities

Medical Devices

In an effort to attract more patients and thereby increase overall earnings, hospitals in China are generally keen to purchase new and sophisticated medical equipment. Popular items are high-technology products such as gamma knives, CT scanners and MRI apparatus. Demand is also growing for other devices such as endoscopy instruments, MIS tools and home health-care equipment (including home diagnostic and monitoring kits, mobility aids and home-based dialysis and respiratory apparatus).

As well, in response to growing investments in the biotechnology sector in China, there are increasing opportunities for suppliers of biotechnology research support equipment and supplies, such as DNA sequencers and synthesizers, cell sorters, peptide sequences and various reagents. It is estimated that products in this category comprise approximately 7% of the total biotechnology market in China.

Pharmaceuticals

Increasingly high incidences of respiratory disease, cerebrovascular disease, cancer, and heart disease have led to greater demand for products used in the prevention or treatment of these conditions. Respiratory disease alone accounts for 20.7% of all deaths in China, followed by cerebrovascular disease and cancer at 19.2% and 18.4%, respectively.

Western medicines have been gaining popularity in the Chinese market in recent years, primarily as a result of the perception by many Chinese consumers that Western synthetic drugs offer additional benefits and higher-quality ingredients than some of the traditional products already on the market. Western medicines are not likely to supercede the centuries-old traditional Chinese medicine industry, however. Traditional preparations are widely used and trusted throughout Asia and are often used in conjunction with Western products. Therefore, there is strong demand for pharmaceutical products that combine the curative or palliative effects of Chinese and western medicines in China, particularly for biotechnology-derived drugs that capitalize on the strengths of each.

Biotechnology is a rapidly growing segment of the medical market in China, with investment in the sector increasing by a remarkable 2500% since 1988. There is significant interest in China not only for biotechnology-derived products but also in joint-venture initiatives with foreign biotechnology enterprises and research institutes that would contribute to the development of China's biotechnology output capacity. Opportunities for Canadian companies include technology transfer arrangements, co-operative research endeavours with local institutes, direct investment in R&D projects, and assisting biotechnology centres and enterprises in the preparation of products for commercialization.

There is also growing demand for herbal alternatives to synthetic Western medicines used in the treatment of cancer, vascular diseases and other illnesses. Chinese consumers are very receptive to pharmaceutical preparations made with herbal ingredients and other natural compounds. The nutraceuticals market is well-developed in China in the form of traditional Chinese medicines, including dry herbal preparations, medicinal teas and confectionaries, and tonic beverages. The market for dietary supplements and natural remedies is reported to be the fastest-growing segment of the Chinese health-care market.

Health Services/Informatics

Due to the emerging nature of the medical informatics market in China, there are clear opportunities for Canadian companies to contribute their expertise and technology to the development of this sector. Particular segments of the market where commercial potential is thought to exist are listed below.[9]

- *Hospital information systems:* hardware/software for shared information systems, medical order communications, order communication systems, patient registration/billing/account management, medical record management, appointment scheduling, electronic medical records and insurance reimbursement; electronic data interchange; Internet/Intranet applications; and computerized staff calls and personnel location systems.

- *Hospital management information systems:* hospital information architectural and engineering services; hospital management and re-engineering consultation services; hospital/health-care networks; clinical trials management; and prescription, diagnosis and decision support.

- *Hospital automation:* automated tablet control for hospital or independent dispensaries; automated chemical analysis for laboratory use; automated clinical diagnostic systems; and automated transporter system (e.g. for files, specimens).

- *Telehealth/telemedicine:* teleconferencing equipment; teleradiology equipment; imaging equipment; image management systems such as picture archiving communications systems; on-line medical/health information; on-line communication services; direct telediagnostic and telecare services; and professional back-up services and supporting technology.

Actual and Planned Projects

A medical research zone, comprising leading medical and biomedical technology firms, is being established in Beijing. The zone, which is expected to produce annual outputs of $7 billion by 2010, is attracting multinationals with tax exemption arrangements[10] and heightened intellectual property rights protection. Contact the State Science and Technology Commission for more information.

---

[9] Exporters should note that significant commercial activity in some of these areas may not be immediate but will likely develop over the next few years.

[10] Tax exemption will be awarded for a two-year period, followed by a 50% tax deduction for a three-year period.

Construction of a new pharmaceuticals industrial park began in August 2000 in the Changchun New and Hi-Tech Industrial Development Zone. It is projected that the one million square zone, which has already attracted 26 enterprises, will generate gross profits in excess of $71 million and an output value of $34 million in the first year. By 2002, a further 15 enterprises are expected to join and the combined annual output value is expected to rise to $1.1 billion.

A World Bank-funded initiative—the Health Nine Project—is presently under way in Jilin, Shanxi, Fujian, Hunan, Guizhou, Guangxi, Hainan, and Xin Jiang. The project, which is primarily concerned with child and maternal morbidity and mortality in peripheral areas, is expected to run until June 2006. Approximately $25.5 million has been apportioned for procurement of equipment, vehicles and medical supplies through open international tenders. The total value of the project, based on the World Bank loan of $14.9 million, an International Development Agency credit of $74.5 million and additional funding from the Chinese government, is estimated to be $140.1 million. For more information, contact the MOH.

In July 2000, the Netherlands initiated a community health sector project in Qingdao, Shandong Province. The project, which will run until 2003, will involve medical equipment provision and professional training for 1000 doctors, nurses, maternal/paediatric care specialists and disease prevention personnel. Contact the MOH for further details.

The Human Genome Centre of the Chinese Academy of Science (CAS) and the National Human Genome Centre have facilitated China's involvement, as the sixth participating nation, in the international Human Genome Project. CAS and the National Human Genome Centre have already completed the mapping of 30 million base nucleotide pairs on the No. 3 chromosome. As part of the Human Genome Project, Chinese geneticists are sequencing 1% of the human genome and are expected to complete their share of the project by June 2001, two years earlier than initially anticipated. CAS's Shanghai Life Science Institute and the National Human Genome Centre have also initiated on-line publication and storage of DNA sequence data. The DNA Sequence Databank, which contains approximately one billion subunits of gene data, will be opened formally by the end of 2000. Contact CAS for more information.

Construction of the Xi'an University Biopharmaceutical Park began recently in Xi'an, the capital of Shaanxi Province. The $108 million project, funded by five universities and the Xi'an High-tech Industrial Development Zone, is intended to provide an industrial base for the production of biotechnology-derived medicine. The park will comprise four segments, including individual research, development, and training bases and an information centre for the bio-pharmaceutical industry.

The Guangzhou municipal government, in co-operation with Hong Kong's Jinya International Group Ltd. and Guangdong's Xin Luzhou Life Technology Ltd., is

developing a biotechnology research park in Guangzhou. Initial investment in the research base, by the joint-venture firm Guangzhou International Biology Island Development Ltd. (formed by Jinya and Xin Luzhou), was reported to be $171.2 million. Total investment is expected to be approximately $1.8 billion, which will be used to support the development and commercialization of biotechnology products.

Canada's International Development Research Centre (IDRC) is collaborating with China's MOH and the Ministry of Science and Technology on a program aimed at promoting community-based health-care reform in Chinese cities. The project facilitators plan to replace the current three-tier (city–district–street) health-care network with a two-tier (community health-care centre–larger hospital) system, as well as to improve the quality of health-care services offered in the communities. As a result of the initiative, which commenced with the Beijing Haidian Zhongguancun Hospital and surrounding area, 50 general practitioners are receiving training and a number of community service centres are being built.

The IDRC is also involved in a strategic planning project for China's health sector. The project, which was initiated in February 1998 and runs until July 2002, involves a reorganization of health-care delivery and financing in urban areas. Among the project's key aims is to enhance the management of and accessibility to primary care, streamline payment practices and improve administration of patient referrals. Wuhan, Hubei will serve as the pilot city for the new model. The expected outcome of the initiative is a more efficient model of health-care organization and delivery for urban areas, that may be applied to other regions in China. Contact the IDRC for further details on either project.

Beijing University is collaborating with Macao Satellite Communications Co. Ltd. to develop a broadband medical network connecting medical institutions in China and other parts of Asia. A data centre will be established in Macao and will be linked directly with a satellite centre at the University, enabling the exchange of medical data, research material and other information among hospitals, medical research centres, educational institutions, and individual doctors and medical students across Asia. The network is expected to be operational by 2001.

COMPETITIVE ENVIRONMENT

Local Capabilities

Medical Devices

According to the central government's Ninth Five Year Plan, total domestic output in the medical industry was expected to have a value of $35.8 billion in 2000 with gross profits projected to reach a value of $5.2 billion. By 2010, these figures are anticipated to

increase to $143.6 billion and $28.7 billion, respectively. However, Chinese exports of medical products were valued at $2.2 billion in the first five months of 2000, an increase of 14.5% over the same period of 1999. This figure exceeds the projection published in the Ninth Five Year Plan, which estimated that export earnings for medical products in 2000 would be roughly $1.2 billion.

Approximately 6000 medical product patent applications have been filed in China and more than 5000 new products have been developed. In 1999, there were roughly 6000 domestic medical enterprises in China, collectively employing more than 150 000 workers. Of these enterprises, 2900 produce medical devices. However, most domestic firms have not yet complied with Good Manufacturing Practices (GMP) guidelines and are therefore limited in their capacity to export medical products to Western countries.

Domestic suppliers have an estimated 73% share of the overall Chinese health-industries market and dominate in the following segments: low-cost, high-volume hospital supplies and devices; low-technology hospital management and administration; and direct health-care delivery. To address a weakness in production of high-technology equipment, the State Pharmaceutical Administration of China, now known as the State Drug Administration (SDA), initiated a plan to develop the country's medical devices industry into a global leader by 2050. As China enhances its capacity in high-technology output, imports of certain advanced products (such as linear accelerators, colour B-mode ultrasound systems, large X-ray systems, CT devices and MRI scanners), are likely to decline.

Leading domestic medical product manufacturers include Guangdong Weida, Shenzhen OUR International Technology & Science Development Co. Ltd, and Terumo Medical Products Co. Ltd. Guandong Weida, of Guangzhou, produces a variety of advanced imaging, diagnostic, and palliative equipment. The state-owned company has a presence in 30 nations around the world and also operates as an importer of sophisticated medical technology. Shenzhen OUR Science and Technology Co., located in Shenzhen, distributes gamma knives. In May 2000, Shenzhen OUR, in cooperation with the Hubai Machine Tool Plant, established a production facility for medical gamma ray treatment systems. The facility is one of the first large-scale domestic medical technology production centres in the country. Terumo Medical of Hangzhou primarily manufactures catheters. transfusion sets and blood bags.

Pharmaceuticals

China is a global leader in crude drug production. From January to May 2000, China exported $1.4 billion worth of raw materials for pharmaceuticals, representing 62.1% of total medical product exports. In 1999, exports of bulk pharmaceuticals were valued at $3.7 billion, accounting for 61.4% of total medical product exports. China's pharmaceutical industry is also characterized by non-branded finished drugs production.

Shanghai, one of China's leading cities for pharmaceutical production, announced in June 2000 that it would invest approximately $897 million in the industry over the next five years in order to develop the sector as a major growth area for the city. Consequently, pharmaceutical output in Shanghai is expected to grow by 20% annually, reaching a projected value of $9 billion by 2005. Shanghai plans to focus on R&D in biopharmaceuticals, herbal preparations and traditional Chinese medicine.

Leading domestic pharmaceuticals firms in China include Harbin Pharma Group and 999 Enterprise Group (Shenzhen Nanfang Pharma Factory). In 1999, these two firms reported sales of $1.2 billion and $832.9 million, respectively. In the same year, 999 Enterprises' profits reached a value of $90.9 million. It is a state-owned company that produces injectable forms of Chinese medicines used in the treatment of coronary heart disease, inflammation and infections. Other key domestic and joint-venture manufacturers include China Medicines Group, Dalian Pfizer and Shanghai Squibb. China Medicines Group's Guangzhou branch has reported strong earnings growth over the last seven years, with sales value estimated at $251.4 million in 1999. Dalian Pfizer and Shanghai Squibb are among the leading suppliers of imported finished drugs.

Biopharmaceuticals

China produces approximately $540.5 million worth of biochemical drugs per year, comprising 20 different varieties of products. China's present strength in biopharmaceutical research draws upon the country's long-standing expertise in traditional organic medicines. One of the nation's leading biotechnology ventures is Sinogen (based in Hong Kong), a subsidiary of the U.S. company Sinogen International Co. Ltd. The company engages in research and development relating to medical biotechnology.

There are more than 200 bioengineering companies in China and 19 locally produced biopharmaceutical drugs on the market. Domestic production of interferon, alone, generated sales of $82 million in 1998. The China Biotechnology Development and Research Centre, based in Beijing, has played a significant role in developing this industry. Individual commissions have also been established in the Chinese Academy of Sciences, the Ministry of Agriculture, the MOH, the SDA and provincial governments to support growth and innovation in the sector. Biomedicine has been identified as the sub-sector with the greatest commercial potential. However, China's capacity in this area is still underdeveloped. In 1998, China's biomedicine production amounted to $888 million, a relatively modest figure compared with other global producers, and only four Chinese companies had sales volumes of more than $17.9 million.

Major biopharmaceutical products coming out of Guangdong, Guangzhou include hepatitis B vaccine, interferon, interleukin, G-CSF, GM-CSF and EPO. Shanghai also has succeeded in commercializing several biotechnology-derived products in recent years. Shenzhen is one of the leading cities for biotechnology production.

While the foundation for biotechnology research is strong, commercialization of biotechnology-derived products remains a challenge. China is keen to bring more products to market but the sector is still considered immature. There are opportunities, therefore, for Canadian companies to participate in joint-venture arrangements and in assisting local R&D centres with further development of biotechnology products.

Health Services/Informatics

Due to the early developing stage of the Chinese medical informatics market, including health-care delivery and management systems applications, substantial data do not exist that would indicate China's productive capacity in this sector.

However, several medical informatics initiatives—some highly sophisticated—have been undertaken in various regions throughout China. Perhaps the most successful of these projects has been the China National Golden Health Network, reportedly one of the largest telemedicine networks in the world. The network employs state-of-the-art communications technologies (including satellite and fibre optics) to link approximately 350 hospitals across the country. Within four years, the network is expected to connect nearly 100 000 health-care centres and to enable home-based medical consultations. It will also allow patients to access their own medical histories on-line, find comprehensive information on medical specialists and institutions in the country, participate in on-line discussions and support groups, and obtain general medical and health information through the Internet. The project participants plan to expand the network to include partners in Hong Kong, Singapore, Indonesia, Taiwan, Malaysia, Thailand, Japan and Australia over the next few years.

Another leading domestic player in the Chinese health-care delivery and management systems market is the Dalian Telemedicine Centre. The centre plans to work in collaboration with a U.S. firm to connect 35 hospitals within its telemedicine network through video technology. The centre is also a partner in the Chinese Global Telecommunications Partnership Program (GTPP), founded by Dr. Li-Qun. GTPP is a consortium involving two telemedicine communication networks and a network installation firm in China.

Other successful domestic enterprises include Shenzhen Haichuan Industrial, Ltd., one of the more prominent Chinese firms serving the hospital construction, pharmacy administration and medical electronic technology markets, and China Golden Medicine, a national provider of on-line health information. Popular Internet health information and "on-line hospital" sites include New Health Web (http://www.newhealth.com.cn); SinoMD (http://www.sinomd.com/english/default.htm); eHealthcareAsia.com (http://www.ehealthcareasia.com/index.html); Greater China Herbs (http://www.greaterchinaherbs.com/english/index.html); and Drugsky.com (http://drugsky.com/edrugsky/index.html). Drugsky.com, founded by Qianlima Group of Hubei, posts multilingual information on Chinese medicine.

International Competition

Medical Devices

There is a strong international presence in the Chinese medical device sector, with more than 200 foreign medical device companies active in the market. Foreign medical device manufacturers are expected to continue increasing their share of the total market as a result of the limited capacity of domestic production to meet rising demand for high-technology equipment. In 1998, the United States and Japan were the leading supplier countries with import market shares of 33.5% and 24.8% respectively, followed by Germany which accounted for 13.2% of total imports in the sector. The U.S. strength is mostly in electrodiagnostic apparatus, while Japan and Germany lead in terms of imports of general medical/surgical instruments and X-ray apparatus, respectively. In certain niche areas, such as artificial joints, opacifying preparations, and UV/IR apparatus, other countries have a strong position in the market, with Switzerland, Norway and Malaysia dominating in these product categories. Malaysia is also the primary supplier of surgical gloves, while Ireland is China's leading source of contact lenses.

Most major multinational medical manufacturers are active in China, including Baxter Healthcare Corporation (perioneal dialysis products), Becton Dickinson (syringes), General Electric (X-ray equipment, ultrasound apparatus), Hewlett Packard (cardiographs, patient monitors and ultrasound imaging systems), Medtronic (pacemakers), and Siemens (CT scanners). As a result of government regulations concerning the marketing of health-care products and services, most large-scale foreign investments in the Chinese health sector take the form of a joint venture with a local partner.

Pharmaceuticals

Foreign suppliers have been steadily increasing their share of China's pharmaceutical market over the last several years, through exports as well as through joint ventures with local firms. From 1993 to 1998, for example, the share of imports in the total market increased from 11% to 49%. It is expected that foreign presence in the market will increase with the lowering of tariffs and China's accession to the World Trade Organization.

The leading foreign-invested pharmaceutical company in China in terms of sales, is Xian-Janssen. Xian-Janssen recorded sales of $310.8 million and total profits of $63.2 million in 1999. Xian-Janssen is among the top 10 domestic and foreign pharmaceutical manufacturers active in the country. Tianjin SmithKline & French ranked second as a Sino-foreign venture, with sales of $196.2 million in 1999 and total profits of $74.5 million. Tianjin ranked 13th overall in the market. Shanghai Squibb, a Sino-

American venture, followed with sales of $157.5 million in 1999. Shanghai Squibb was in 16th position in the total market.

The United States is China's primary supplier of imported biopharmaceuticals, followed by the United Kingdom, Germany, Sweden and Switzerland. Key producers of biotechnology-related equipment and consumables participating in the Chinese market include: Hoefer Pharmacia Biotech (Sweden), Boehringer Mannheim (Germany), Brand (Germany), Sanyo Gallenkamp (United Kingdom), Advanced Biotechnologies (United Kingdom) and Eppendorf (Germany). Roche (France) is likely to become a major player after contributing to a human genome research project undertaken by the Chinese National Human Genome Centre in July 2000. The project will involve an initial investment of $438,000 by Roche for technical support and training—and will focus on schizophrenia and diabetes research. Roche is currently distributing pharmaceuticals, vitamins, fine chemicals and other products throughout China through six joint-venture partnerships and a wholly owned enterprise.

Other firms establishing a presence in the market include Unigene Laboratories and Xechem International Inc. Unigene Laboratories (United States) announced on July 27, 2000 that it would enter into a joint venture with China's Shijiazhuang Pharmaceutical Group (SPG) to produce and distribute injectable and nasal calcitonin products in China and other Asian countries. The products, used in osteoporosis treatment, will complement SPG's current line of injectable calcitonins. The products will be manufactured in an Unigene plant in New Jersey and will be stored and distributed from a new facility in China. Xechem International Inc. (New Jersey, United States), through its joint-venture firm Xechem Pharmaceutical China Ltd, has established a nation-wide distribution system in China for its range of biopharmaceutical products. Xechem's wholly owned subsidiary, XetaPharm, will also begin selling its line of nutraceutical products in China, with initial shipments of dietary supplements to Hong Kong.

Health Services/Informatics

A number of U.S. and European establishments are partnered with the National Golden Health Network through communication links. These establishments include Massachusetts General Hospital, East Carolina University Telemedicine Center, Partners Telemedicine Group in Boston, the National Aeronautics and Space Administration and Harvard University—all U.S. institutions—, as well as the European Institute of Telemedicine, the European Institute of Telesurgery in Strasbourg (France), Telemedicine in Toulouse (France), and MediHelp (Australia). Similarly, the U.S. firms Intelect Visual Communications (LANscape video communications products), Commercial Satellite Systems (satellite communications), and American Medical Development (telemedicine peripherals) have entered into agreements with GTPP to develop China's telemedicine infrastructure.

Other leading participants in the market include Global Vision (Australia) and Chindex (U.S.). Global Vision manages the China Health Network, a "virtual" medical school that will be made available to 61 000 hospitals across China according to the company's plans. Among the broad range of topics covered through the network's programs will be medical treatments and hospital management. Chindex is one of the largest U.S. distributors of Western health-care products in China and one of the few foreign firms operating private hospitals in the country. Chindex was established in 1981 and employs 200 people in China.

U.S.-based CYBeR-CARE, a technology-based disease management enterprise, entered into a joint venture arrangement in February, 2000 with SIIC Medical Science and Technology Ltd., a publicly owned subsidiary of Shanghai Industrial. Under the agreement, SIIC Medical will distribute CYBeR-CARE's patented Electronic Housecall System (EHS) throughout the Asian territory. EHS is an Internet-facilitated patient monitoring system. A minimum of 30 000 units is expected to be sold in China, and a further 30 000 in other countries in the region, before 2004. SIIC Medical estimates that the joint venture will generate revenues of approximately $750 million during the initial four-year period of distribution. CYBeR-CARE is a Florida company providing pharmacy, air ambulance and clinical services on-line, and offers e-commerce services linking patients, health-care providers and third-party payers.

Canadian Position

Medical Devices

Canada exported medical equipment, devices and supplies valued at $7.4 million to China in 1999, representing an impressive increase of 152% over 1998. Despite the rise in Canadian imports, Canada maintains a modest 0.5% share of the total import market. Key Canadian imports include X-ray apparatus, MRI apparatus, medical and veterinary instruments, endoscopes, blood transfusion apparatus, hearing aids and bandages.

Pharmaceuticals

In 1999, China imported $7.4 million worth of pharmaceutical products from Canada, a dramatic increase of 668% over 1997 figures. Canadian products still represent less than 1% of the import market, however. Vitamins, medicaments for retail sale (not including hormones or antibiotics) and Chinese herbals accounted for nearly all imports of Canadian pharmaceuticals into China in 1999.

Health Services/Informatics

Canada does not have a strong presence in the Chinese health-care delivery and management systems market; however, a number of Canadian firms are investigating

opportunities in the country. HealthSat, for example, a subsidiary of Canada's Prime Net Communications Inc., is undertaking a project in China. HealthSat is a provider of continuing medical education (CME) and plans to export CME programs to 65 000 hospitals across China. Another firm, HealthLink Communications Inc., a subsidiary of Greenlight Communications Inc., is exploring the feasibility of supplying multimedia CME to the international community, including China, India, South Africa and Malaysia. HealthLink develops and disseminates health-care programs for companies, professionals and consumers in the health industries sector and works closely with the Canadian International Development Agency, the Royal College of Physicians and Surgeons of Canada, Health Canada and the Department of Foreign Affairs and International Trade.

Competitive Advantage through Canadian Government Policies and Initiatives

Canadian International Development Agency Industrial Co-operation Program

Since 1982, the Canadian International Development Agency's Industrial Co-operation Program (CIDA Inc) has been actively promoting Canadian participation in China's socio-economic development. CIDA Inc offers cost-sharing services for feasibility studies, project development and project implementation, to companies considering investing in China through joint-venture arrangements or wholly owned ventures. CIDA Inc's interests are mostly in projects involving social impact enhancement.

Export Development Corporation

Export Development Corporation (EDC) is Canada's official export credit agency, facilitating Canadian trade with over 200 world markets. EDC's first transaction with China took place in 1980 and since this time EDC customers — Canadian companies of all sizes — have concluded over $5 billion worth of business in China. A variety of EDC trade finance services have been employed in the China market. Financing is traditionally offered on a case-by-case basis through lines of credit established with select Chinese banks. Export financing may also be considered via direct buyer loans to creditworthy companies which have Chinese government authority to borrow funds abroad. In addition, EDC export and investment insurance programs provide exporters with protection against a variety of commercial and political risks. Performance security and contract bonding programs also help exporters by providing them with the ability to free up working capital while meeting bonding requirements during the execution of commercial contracts.

Canadian Commercial Corporation

The Canadian Commercial Corporation (CCC) gives Canadian companies access to financing and better payment terms under the Progress Payment Program (PPP). The PPP concept was developed as a partnership between major Canadian financial

institutions and the CCC. It enables the exporter's bank to open a project line of credit for the exporter's benefit, based on CCC approval of the project and the exporter's ability to perform. The CCC will also act as a prime contractor on behalf of Canadian small and medium-sized enterprises, giving those businesses increased credibility and competitive advantage.

Program for Export Market Development

The Program for Export Market Development (PEMD) helps Canadian companies enter new markets by sharing the costs of activities that companies normally could not or would not undertake alone, thereby reducing risks involved in entering a foreign market. Eligible costs and activities include market visits, trade fairs, incoming buyers, product testing for market certification, legal fees for international marketing agreements, transportation costs of offshore company trainees, product demonstration costs, promotional materials, and other costs necessary to execute a market development plan. Activity costs are shared on a pre-approved, 50/50 basis.

The PEMD refundable contribution ranges from $5,000 to a maximum of $50,000. Preference is given to companies with fewer than 100 employees for a firm in the manufacturing sector and 50 in the service industry, or with annual sales between $250,000 and $10 million. Other components of the program include international bid preparation (Capital Project Bidding) and, for trade associations, developing international marketing activities for their membership. For additional information visit the Internet site: http://www.infoexport.gc.ca/pemd-e.asp or call 1-888-811-1119.

WIN Exports

WIN Exports, a database of Canadian exporters and their capabilities, is used by trade commissioners around the world and by Team Canada Inc partners in Canada to match Canadian suppliers with foreign business leads, and to share information on trade events. To register your company in WIN Exports or for more information, visit http://www.infoexport.gc.ca/winexports/menu-e.asp or call 1-888-811-1119.

PRIVATE-SECTOR CUSTOMERS

There are currently very few private hospitals in China. Those that do exist, such as Chindex's Beijing United Family Hospital and the International Clinic (AEA) in Beijing, charge fees comparable to North American facilities and cater primarily to expatriates. However, Chindex is planning to expand the Beijing United Hospital and to establish five new hospitals in eastern China for 2002. As well, MOH announced in August 2000 plans to permit price-fixing at private hospitals in China, and thus encourage the development of a two-tier health-care system in the country. One tier will comprise China's non-profit hospitals and clinics (which account for the majority of health-care

institutions in the country, at present) while the other will be formed by commercial private clinics and Sino-foreign joint ventures.[11]

There are also relatively few private-sector pharmacies in China since drug dispensation services are offered at all hospitals, clinics, and health-care establishments in the country. In many remote rural areas, the "peasant doctors" serve as pharmacists, dispensing medications directly to patients. However, the market is expected to open up in the short to medium term, with distribution opportunities, such as pharmacies and retail outlets, increasing for pharmaceutical suppliers. In August 2000, China 999 Enterprise, the country's largest pharmaceutical manufacturer, announced plans to establish a chain of 5000 to 10 000 drugstores across the country which will operate under unified management, distribution and pricing systems.

Selling to private hospitals, clinics, and pharmacies requires local representation, normally in the form of an agent or distributor.

PUBLIC-SECTOR CUSTOMERS

In 1999, there were 314 097 health-care institutions in China; the vast majority of which were publicly managed. Public hospitals in China are divided into five segments: those affiliated with the MOH, army hospitals, industrial military hospitals, state hospitals and other government hospitals. Of the country's 16 678 hospitals, roughly 23% are operated at the county level or above. Hospitals operated at or above the county level normally are in a stronger position than other health-care establishments to make major equipment purchases, since many of the hospitals operated below county level are small, understaffed and underfunded.

The People's Liberation Army operates more than 300 hospitals throughout China and is a major consumer of high-technology medical products and services, as well as a producer of medical equipment. Many of China's best-equipped hospitals are run by the armed forces. The largest of the military hospitals is Hospital 301 in Beijing.

The provinces with the largest number of hospitals and health-care institutions are Sichuan (29 000), Shandong (15 000), Hebei (15 000) and Jiangsu (14 000). Major hospitals in China's coastal cities have a special designated budget and are often in a position to purchase more modern instruments than other hospitals in China. As a result, these hospitals are commonly as well equipped as most hospitals in North

[11]The Government plans to offer a three-year corporate tax holiday to private hospitals (provided profits are to be used to improve the level of health-care) as an incentive to increase the participation of the private sector in the country's health services industry. These initiatives are being undertaken in an effort to modernize China's health-care system and place China in a better position to respond to rapidly growing health-care demands.

America.[12] (See **Appendix C** for further data on health-care establishments in China's provinces.)

All hospitals and medical clinics in China also operate on-premise pharmaceutical dispensaries, although the Government is planning to institute regulations separating drug dispensation and direct health-care delivery. It is uncertain when, or if, these regulations will be implemented. Until then, hospitals and clinics will remain the primary purchasers of pharmaceutical products in the public sector.

Government Organizations

Each hospital in China is independently responsible for its own medical and health-care product purchases. However, public hospitals purchase most goods and services through the Ministry of Foreign Economic Relation's Foreign Trade Corporations, China National Instruments Import and Export Corporation (for telecommunications equipment, computers, laboratory instruments and electronic instruments) and China National Chemicals Import and Export Corporation (for medical instruments, apparatus and supplies). While hospitals must procure goods through these agencies, they are afforded a high degree of autonomy over purchasing supplies and advanced equipment. Hospital managers are usually responsible for making procurement decisions and are, therefore, appropriate targets for promotional material and direct marketing activities.

Each province and municipality in China manages its own foreign trade system, usually through a local Foreign Trade Bureau or equivalent organization. Provincial and local enterprises have increasingly been taking an active role in direct foreign trade and may soon be considered in advance of national level import and export corporations as the first point of contact.

Government Procurement Regulations

The Chinese economy is still, to a great extent, structured upon state-run enterprises. Accordingly, the central government is the primary consumer of foreign goods and services. However, local laws and regulations governing public procurement in China are often complex and inconsistent, making foreign participation in open public contracts challenging. China continues to protect domestic suppliers, often affording preferential treatment to domestic bidders on open tenders. The Chinese government also often requires foreign suppliers bidding on local contracts to implement a domestic component to their application (for example, through investment, technology transfer or

[12] It is commonly accepted, however, that only the 2000 or so major hospitals across 30 cities in China (serving the country's 200-300 million urban residents) are in a position to procure sophisticated Western medical technology.

counter-trade concessions). In general, contracts worth more than $148,000 are put to public tender. Foreign suppliers are normally not permitted to bid on domestic procurement contracts.

In theory, public procurement of large-scale medical or hospital equipment is subject to the MOH's Preliminary Regulations on the Management of Purchase and Application of Large Medical Equipment, a regulatory plan instituted by the MOH in 1995 in an effort to make procurement practices more efficient and transparent. Under the plan, separate stipulations are assigned to the purchasing, operation and use of large-scale medical equipment. Chinese organizations seeking to purchase high-end medical or hospital equipment (including CT scanners and MRI systems) must submit an application to the provincial Bureau of Public Health in their region. Upon approval from the provincial bureau and ultimately from the MOH, the MOH issues a Purchase Licence or a Letter of Need to the organization for the item in question.

While the Government encourages centralized purchasing and public bidding for large procurement contracts, in practice, individual hospitals often acquire high-end products directly from their suppliers (e.g. distributors, trading companies). Attempts by many hospitals to maximize revenue has led to the reportedly common practice of purchasing unnecessary high-technology diagnostic equipment and ordering expensive tests that are not clinically required. However, since the MOH does not exercise any direct budgetary control over public hospitals it is limited in its ability to curb expenditure on superfluous equipment and has little, if any, influence on the purchasing decisions of individual hospitals.

MARKET LOGISTICS

Channels of Distribution

Commercial activity is concentrated along China's eastern seaboard, particularly in Shenyang, Beijing, Tianjin, Shanghai and Guangzhou. While there are several large urban centres inland, including Chongqing or Wuhan, infrastructure is generally less developed the further west one travels. Accordingly, exporters are more likely to find distributors and agents covering larger regions in the east.

Foreign exporters usually engage the services of a local agent or distributor to facilitate market entry, although joint ventures with domestic firms, use of trading companies, and establishment of local sales offices are also options. Canadian companies should note that the advertising of medical products and technology in China is strictly controlled by the state. As a result, medical manufacturers are more likely to take advantage of local trade shows (attending two to three per year) to promote their products and services.

Canadian companies are advised to contact the Canadian Embassy in Beijing, the Consulates General in Shanghai or Guangzhou, or the Consulate in Chongqing for a list of reliable and authorized medical product and technology distributors and agents in their respective regions.

Canadian firms seeking to enter the Chinese market should also consult market access reports from Industry Canada's Strategis Internet site at http://strategis.ic.gc.ca,[13] which describe in further detail all potential channels of distribution in China.

Direct Sales

Direct marketing by foreign firms is not permitted in China. Therefore, foreign suppliers seeking to access the Chinese marketplace must do so through an agent or distributor, joint venture arrangements with Chinese partners, or locally established, wholly owned ventures.

Distributors and Wholesalers

Foreign suppliers of medical devices and equipment frequently engage the services of a distributor in order to access China's vast and complex commercial arena. Due to the sheer size of the country and the decentralized nature of the Chinese marketplace, distribution networks usually operate on a regional or provincial basis. Several distributors may be necessary to adequately cover a region. Guangzhou, Shanghai and Beijing are regarded as having the most developed distribution centres in the country and are often targeted as a point of entry into the market by first-time exporters to China. Distribution firms in Guangdong, in particular, tend to be more familiar with foreign trade practices and local market needs, and generally have more established distribution networks than firms from other parts of the country.

Exporters will likely be required to provide training for the distributorship's marketing staff, or recruit and train salespeople who are then hired by the distributor. Some companies also choose to enter into joint-venture arrangements with their distributors. Exporters should ensure that the distributors they select have been authorized by the state to market medical products and technology.

At present, China lacks a reliable, comprehensive distribution system for supplying pharmacies and hospitals across the country with pharmaceutical products. In July 2000, the Government announced plans to support the establishment of a modern mechanism for pharmaceutical distribution and marketing in the country. A private-

[13] The U.S. Department of Commerce's report, "China–Medical Equipment: Market Access" (available at the Strategis site), is a particularly good source of information on methods of marketing products and services in China.

sector-based system would replace the country's former dependence on state-owned wholesale outlets for national distribution in this sector.[14]

Agents and Sales Representatives

Agents are becoming increasingly involved in the Chinese health industries market. As with distributors, agents do not operate on a national basis. Therefore, exporters will need to hire several agents to cover different geographic regions. There are at least five major regions in China guiding agent and distributor networks. The regions are the South (namely, Guangzhou), the East (namely, Shanghai), the Beijing-Tianjin region, Central China and Northeast China.

Not all agents have import and export authority. Those that do not have this authority often represent trading companies and other enterprises with this capacity in order to facilitate trade activities for foreign companies. Agents are subject to the laws set out by the Bureau of Internal Trade.

Trading Companies

Approximately 10 000 Chinese firms have been authorized by the state to sign import and export business contracts. Occasionally, foreign firms employ a trading company as a form of "manufacturer's representative." In such arrangements, the trading company can act in a capacity similar to a local agent, but with the added benefit of being authorized for foreign trade transactions.

Joint Ventures

Most large-scale, foreign health-sector investments in China are a result of joint-venture relationships. Joint ventures afford access to a Chinese partner's established *guanxi* or business connections and can help the exporter understand and navigate local regulations. Joint ventures can also contribute to popular recognition by association with a well-known Chinese name. Some foreign companies have found it easier to distribute locally produced goods resulting from a joint-venture initiative than to export products to China, since locally manufactured products are not subject to the same

[14]In August 2000, The Government announced intentions to permit the establishment of several Sino-foreign pharmaceutical distribution and retail companies. The joint-venture enterprises would be subject to guidelines determined jointly by the State Economic and Trade Commission and the Ministry of Foreign Trade and Economic Co-operation, and would be created under the direction of the State Drug Administration. Foreign participants in the joint-venture distribution arrangements must take a minority stake (at a maximum 49% interest) and must demonstrate global sales of more than $3.7 billion in the three years prior to a joint-venture application. Prospective foreign pharmaceutical retailers must show sales of more than $3 billion in each of the three years prior to application to retail in China and must have assets valued at more than $298 million.

stringent trade regulations and registrations. Canadian firms should realize that joint-venture arrangements often require continuous negotiations to ensure that business plans are acceptable to both parties.

In June 2000, MOFTEC issued new guidelines for foreign-invested R&D centres in China, including those involved in biotechnology and pharmaceutical research and development. The new specifications seek to encourage foreign participation and technology-transfer in scientific research in China while providing a clear definition of the approved structure of such arrangements. Under the new guidelines, investments in R&D programs must be valued at a minimum of $3 million. In addition, Sino-foreign R&D ventures must be evaluated and approved by the relevant provincial department prior to establishment. Existing joint ventures that are introducing a R&D component to their business must also apply for registration with the relevant provincial authorities. Canadian companies should contact MOFTEC for more information on regulations relating to Sino-foreign R&D projects.

Market-entry Considerations

Although the rapidly developing Chinese economy offers clear opportunities to foreign suppliers in a variety of sectors, Canadian exporters should be aware that a number of challenges to market access remain. The Chinese business environment is quite aptly characterized as complex and variable. Frequent policy changes, strong domestic protection, disregard for intellectual property laws, low profit margins and inefficient channels of distribution are common complaints of foreign participants in the market. The Government-led restructuring currently being undertaken in most sectors is contributing to the complexity of China's trade system.

In the health-industries sector, high levels of regional segmentation and the novelty of advanced medical technology pose additional challenges to marketing and distribution of products and services. Consumer preferences and purchasing capacity can vary drastically from region to region and particularly between rural and urban areas. Firms that are successful in the Chinese marketplace recognize the need to adapt their products and services, as well as their marketing strategies, according to these differences.

Successful firms also invest the requisite time and effort into thoroughly researching the market and developing business relationships over the long term. A strong knowledge of the variable aspects of Chinese business culture, and reliable support from local partnerships, can also help ease entry into this potentially lucrative market.

China's Accession to the World Trade Organization

China has made a number of trade-related commitments to World Trade Organization (WTO) members that are expected to take effect when China accedes to the

organization. These include tariff concessions as well as commitments to apply WTO rules relating to subsidies, standards, intellectual property, import licensing, trade-related investment measures and sanitary and phytosanitary measures. China will also be bound by fundamental WTO principles that will require the country to strengthen commercial legal procedures and improve transparency.

China's WTO commitments should help to reduce the risk of doing business in China and encourage increased trade and investment flows. However, most commitments will be phased in over time. In the case of lower tariff rates, most new bound rates will be phased in over five equal, annual increments from the date of accession.

China negotiated a number of tariff rate concessions in its bilateral WTO agreements with member countries. The most favourable concession for any item will apply to all member countries once China joins the WTO.

On November 26, 1999, Canada and China concluded a bilateral agreement providing for improved market access for a range of goods and services.

Suggested Business Practices

Since most business in China is conducted through personal contacts, one of the most important aspects of business dealings in China is *guanxi*, which translates roughly as "connections." The right *guanxi* can open doors to vast networks of potential clients and can facilitate understanding (and sometimes sidestepping) of China's diverse regulations and restrictions. While a local agent or partner can attend to *guanxi* on the foreign partner's behalf, frequent visits to the market by the exporter—and/or establishment of a local office—is advisable for establishing successful, long-term business relationships in China.

All training and usage documentation accompanying imported products must be provided in the local language. Any computer software and/or medical informatics technology should also be compatible with Chinese language requirements.

Proper respect should be shown to potential clients or other business partners by addressing them by their title (Mr., Dr., etc.), and by being on time for all meetings. Also as a sign of respect when exchanging business cards, Canadians should give adequate consideration to the business card presented.

Canadian companies should also consult the "China-Hong Kong Factbook: Business Protocol in China" prepared by the Canadian Embassy in Beijing, available at the Internet address: http://www.canada.org.hk/english/index.html.

Intellectual Property Rights Protection

As a result of a Memorandum of Understanding on the Protection of Intellectual Property (IPR MOU) signed between China and the European Union (EU), Japan, Switzerland, Sweden and the United States in 1992,[15] products can be patented for a full 20-year term in China. China has also established regulations to protect products awaiting official approval and registration. Patent applications by foreign firms must be made to the Patent Agency of the China Council for the Promotion of International Affairs, the Shanghai Patent Office or the Hong Kong-based China Patent Agent. Patent applications and proceedings are published in the Patent Gazette 18 months after initial filing.

Trademarks are valid for 10 years from the approval date and can be renewed upon application. Foreign companies must apply to the State Administration of Industry and Commerce for a trademark.

Canadian companies should be aware that although China has indicated a strong commitment to improving property rights protection, trademark infractions and theft of patented technology is still prevalent in the country. Accordingly, Canadian exporters may wish to enlist the services of a qualified lawyer familiar with China's intellectual property rights environment.

Import Regulations

Imported medical devices, telecommunications equipment and related health-care products are subject to customs duties which range from 6% to 25% according to the product type. Pharmaceuticals, including biotechnology-derived drugs, are subject to import duties ranging from 6% to 14%. Imported Canadian products are assigned the minimum tariff rates. An additional 17% value-added tax is levied on all medical products imported into China. Import quotas and licenses are not applied to medical products or biotechnology-based equipment, instruments and consumables.

Although China has made impressive strides in reducing import tariffs and liberalizing restrictions previously imposed on foreign trade, non-tariff import barriers remain a challenge to foreign exporters. Only government-authorized companies may sign trade contracts, just as domestic agents, alone, are permitted to arrange for the importation of a product into China. It is very useful to foster a good working relationship with appropriate customs and import offices to facilitate customs clearance and import approval. Involvement in a joint venture or similar partnership with a domestic firm can also help ease navigation through import regulations.

---

[15]The IPR MOU was revised in 1995 to address concerns that the regulations did not adequately ensure IPR protection.

Required documentation for imported products include the following:

- bill of lading;
- commercial invoice;
- shipping list;
- sales contract;
- insurance policy;
- customs declaration form;
- full operating/use instructions (particularly for medical devices);
- inspection certification;
- quality/safety certificate (for pharmaceuticals);
- authorization for sale certificate from the country or region of manufacture;
- a manufacturer's written guarantee regarding the product's quality, including specification and standards of quality; and
- information/documentation on the local importer (e.g. distributor, agent).

Usually, the Chinese importer (or local agent/distributor/joint-venture partner) is responsible, with the co-operation of the foreign exporter, for handling the documentation requirements.

Products must also be labelled in Chinese to indicate:

- product name;
- manufacturer's name and address;
- primary ingredients, their grades and specifications (for pharmaceuticals);
- expiry date for sale or efficacy (where applicable);
- warnings on potential hazards and their prevention; and
- directions for proper transport and storage of potentially hazardous products (where applicable).

Under the Chinese Interim Law on the Distribution of Prescription and Over-the-Counter Drugs (July 2000), additional requirements are applied to pharmaceuticals. Manufacturers of either prescription or OTC drugs must have a Drug Production Licence and must classify their products as either prescription or OTC. Packaging for prescription drugs sold in China must bear the statement: "May be sold, purchased and used only with a doctor's prescription." Similarly, packaging for high and medium risk OTC drugs must include the following: "May be purchased and used only according to a pharmacist's instructions." In accordance with the Interim Law, manufacturers are also prohibited from selling or promoting medical drugs directly to individual consumers.

Local Standards, Certificates or Registrations

Medical Devices

Before any medical device can be imported into China it must first be registered with the SDA, which has regulated the sale and importation of medical devices in China since 1998. Exporters should note that although the MOH is no longer officially responsible for regulating medical devices, some products may be required to be inspected by both the SDA and the MOH. Registration with the State Office of Import and Export of Machinery and Electrical Equipment may also be required for certain medical or IT products with electrical components, such as ultrasound equipment. Devices that have been previously approved by the U.S. Food and Drug Administration (FDA) or the Japanese Ministry of Public Health must still undergo the Chinese approval process but may be afforded special allowances. Medical devices with the Conformité Europeène (CE) marking are accepted for import, provided additional documentation is submitted in the local language and the manufacturer has an established local office in China. With some exceptions, products that have successfully undergone clinical trials overseas are exempt from extensive local testing. Imports of second-hand equipment are not permitted without special approval by the State Office of Import and Export of Machinery and Electrical Equipment.

Any product sold in China that is intended for use on humans for medical purposes—including component parts, accessories and device software—is classified according to their risk level. Under a revised version of the regulation system, Administration on Product Registration of Medical Devices (1996), products are divided into three risk levels, with Class III being the highest risk and Class I being the lowest.[16] The system was updated to more closely resemble international norms. "General controls" are applied to class I products, while class II devices, such as electrotherapy equipment, are subject to "special controls" and require certification, usually obtained through quality assessment. Class III devices, including active implantables such as pacemakers, are subject to the most stringent regulations and must be accompanied by explicit documentation. The provincial offices of the Medical Device Division of the SDA is responsible for the regulation of class I and class II devices, while class III devices are regulated centrally by the SDA.

[16]The *Medical Device Products Classification Catalogue* , available through the SDA, identifies the class of most medical devices. For devices not listed in the catalogue, suppliers must contact the SDA for classification.

Table 1. SDA Inspection Centres

Inspection Centre	City
Medical devices	Shanghai
X-ray equipment	Shenyang
Ultrasound equipment	Wuhan
Orthopaedic/physical therapy equipment	Tianjin
Polymers	Jinan
Dental and sterilizing equipment	Guangzhou
Stomatologic products	Beijing
Biochemical apparatus	Beijing
Optics, lasers and cryotherapy equipment	Hangzhou

Source: *Espicom Business Intelligence*. "Market Profile–China," July 2000.

Under the MOH's "Preliminary Regulations on the Management of Purchase and Application of Large Medical Equipment," high-end medical and hospital technology is subject to operational and utilization restrictions, as follows:

Operation: The MOH's National Committee for the Assessment of Large Medical Equipment is charged with assessing installations of medical technology under safety, hygienic and quality controls. All high-end medical and hospital equipment must receive a "Quality Certificate for Use" from the Committee prior to installation or operation. The Committee re-evaluates the equipment on a biennial basis.

Use: The MOH issues a "Technical Qualification Certificate of Large Medical Equipment Operator," to medical technology operators upon successful completion of qualification exams. Operators of high-end medical or hospital equipment cannot operate the equipment without this certification.

Canadian exporters should note that although China has made some progress in harmonizing its device regulations with international standards, the approval and registration process in China is still generally considered to be very complex and opaque. It is also inconsistent across levels of government and between provinces, often confused by overlapping authorities each potentially with a different view of regulatory requirements. Device regulation is sometimes unclear even among the various authorities involved in the testing and approval of certain products. The China Commodity Inspection Bureau, for example, is currently battling with the SDA over certification requirements on X-ray systems, blood dialyzers, therapeutic ultrasound systems and similar items. Accordingly, established contacts and/or reliable local representation is essential to assist an exporter with local registration requirements.

Pharmaceuticals

In theory, China does not officially restrict imports of pharmaceutical goods. However, in practice, the market is open only to suppliers of high-priority and high-technology drugs. All pharmaceutical products imported in China must be registered with the SDA, which is responsible for overseeing the sale of both domestically produced and imported drugs. Registration with the MOH may also be required for certain pharmaceutical products. The Directorate of Pharmaceutical Products of the MOH is ultimately responsible for testing of pharmaceuticals and biopharmaceuticals. However, pharmaceutical products are normally required to be tested at several levels (municipal, provincial, national) and are subject to testing criteria similar to those followed by the U.S. FDA. Before a product is approved for sale on the market, it must normally undergo three stages of clinical testing for safety and efficacy, including testing on human subjects.

Quality certificates, based on national compulsory quality and safety standards, must also be issued for imported pharmaceuticals. Quality certificates are obtainable directly from the State Administration of Import and Export Commodity Inspection (SACI), and can be arranged through a Chinese importer. Since the process can be quite lengthy, Canadian suppliers are advised to arrange for application to the SACI well in advance of exporting their products to China.

On June 9, 2000, the SDA and the MOH jointly released the "Interim Administrative Law on Adverse Drug Reaction (ADR)." Under the law, any enterprise or organization involved in the production, distribution or dispensation of medical drugs must establish a mechanism for monitoring adverse reactions to these products. Reports on a drug's safety and efficacy must be submitted to established provincial ADR centres on a quarterly basis for a period of five years following marketing of a new drug. If severe or rare reactions to a particular drug are detected, reports must be submitted to an ADR centre within 15 working days of the discovery.

Under a new law governing the advertisement of nutritional supplements, manufacturers and distributors will be prohibited from exaggerating the effectiveness of a given product and citing anecdotal evidence of a product's quality in promotional activities. The MOH is expected to establish further regulations with respect to the promotion of products in this category and to take legal action against manufacturers refusing to comply with the law. These regulations were established in response to rapid growth in the industry and a concomitant increase in the number of suppliers using questionable tactics to market parapharmaceutical products in the country in order to take advantage of growing demand. At present, dietary supplements are placed in the same category as health foods in China and are subject to the same regulations.

On August 17, 2000, the Standing Committee of the National People's Congress held a hearing on a draft revision of the Pharmaceutical Administration Law. The Law was initially implemented on July 1, 1995, in an effort to reduce the production and marketing of counterfeit and substandard medical drugs. The revised version, which has yet to be approved, clarifies conditions for the establishment of pharmaceutical manufacturing facilities and expands upon quality control regulations for raw materials and Chinese medicines.

Health Services/Informatics

In August 2000, the Beijing Municipal Health Department (BMHP) announced plans to regulate medical information and diagnosis Web sites in China. BMHP is currently drafting legislation intended to govern medical services provided over the Internet, in response to the proliferation of such sites in the country. BMHP plans to establish guidelines for "online doctors" and to reduce the incidence of mis-diagnosis and misinformation stemming from unmonitored health-related Internet sites. BMHP states that medical Web sites should serve primarily as vehicles to disseminate knowledge and/or provide basic consultation on health issues, but should not be in a position to take legal responsibility for medical treatment. To this end, the proposed regulations will stipulate that Internet medical sites avoid using the term "hospital" to describe their site and will require all medical treatments such as outpatient services and emergency care to be performed at authorized medical institutions only. The regulations will also specify that all individuals providing health-related advice or information online must be professionally certified. In addition, Internet medical sites will have to be registered with the appropriate local health authority. In the case of sites managed from Beijing, BMHP will be responsible for certification of qualifications and for site registration.

Foreign service providers have found selling to the Chinese market a challenge since foreign companies exporting services are permitted to conduct business only under experimental or temporary licenses. Foreign service providers are also limited in terms of the regions in which they can market themselves. It is expected, however, that China will become more receptive to imported services in preparation for accession to the WTO. Canadian suppliers should contact the Department of International Co-operation at the MOH for more information.

Export Credit Risks, Restrictions on Letters of Credit, Currency Controls

Chinese agents and distributors are generally well-versed in the use of letters of credit and other common export financing mechanisms, the former of which are customarily used for international business transactions in China.

All commercial transactions involving foreign exchange payments in China must be approved by the State Administration of Exchange Control. However, since 1995, foreign trade companies have been able to purchase foreign currency from banks at the

official posted rates on the basis of evidence of import contracts. Accordingly, end-users are no longer required to apply for or maintain reserves of foreign currency to initiate foreign trade transactions with an importer.

PROMOTIONAL EVENTS

Event/Description	Organizer
Healthcare China September 5-8, 2000 (Annual) International Exhibition Centre Shanghai, China Industry/Topic: Medical, pharmaceuticals	Hong Kong Exhibition Services 9th Floor, Shiu Lam Building 23 Luard Rd. Wanchai, Hong Kong Tel.: (85-2) 2804-1500 Fax: (85-2) 2528-3103 E-mail: exhibit@hkesmontnet.com.hk Internet: http://www.hkesmontnet.com.hk
Expomed China September 19-22, 2000 (Annual) China Foreign Trade Centre Guangzhou, China Industries: Home health-care equipment, social services, ambulatory services, medical technology, pharmaceuticals, analytical and scientific equipment	Union Fair & Trade Co., Ltd Flat A&B, 2/F, Haojing Mansion 122-130 Si You Xin Ma Lu Guangzhou 510600, China Tel.: (86-2) 8736-1887/9 Fax: (86-2) 8736-1350 or -1372 Contact: Kent Wen or Anita Zeng E-mail: gzunionf@public1.guangzhou.gd.cn
Medtech China September 30-October 2, 2000 (Annual) Shanghai International Exhibition Centre Shanghai, China Industry/Topic: Medical technology, pharmaceuticals	Hannover Fairs Asia Pte Ltd. 3rd Floor, 84 Amoy St. Singapore Tel.: (65) 220-7633 Fax: (65) 220-9733 E-mail: info@hfasin.com Internet: http://www.hfasin.com Contact: Sherman Low
Shanghai-Med October 17-24, 2000 (Annual) Intex Exhibition Centre Shanghai, China Industry/Topic: Medical, medical equipment services	Sieco Tel.: (86-21) 6546-3810 Fax: (86-21) 6545-5124 E-mail: siec@stn.sh.cn
China-Pharm '2000: The 5th China International Pharmaceutical Industry Exhibition November 27-30, 2000 China International Exhibition Centre Beijing, China Industry/Topic: Pharmaceuticals, pharmaceutical products	Beijing International Business and Technical Corporation Rm 417, Section 2, Central Building Hualong St. Nankeyan, Dongcheng District Beijing 100006, China Tel.: (86-10) 6512-8587 or 6523-7784 Fax: (86-10) 6526-9675 E-mail: lijojo@263.net
The 44th China National Medical Equipment Fair November 2000 Venue to be announced Beijing, China Industry/Topic: Medical equipment	China National Corporation of Medical Equipment Industry 38 Beilishi Rd., Jia Beijing 100810, China Tel.: (86-10) 6444-8666 ext. 815 Fax: (86-10) 6444-8881 E-mail: yxling@263.net Internet: http://www.cmic.com.cn

Event/Description	Organizer
Pharmpak China May 15-18, 2001 (Annual) Intex Exhibition Centre Shanghai, China Industry/Topic: Medical, pharmaceuticals	Hong Kong Exhibition Services 9th Floor, Shiu Lam Building 23 Luard Rd. Wanchai, Hon Kong Tel.: (85-2) 2804-1500 Fax: (85-2) 2528-3103 E-mail: exhibit@hkesmontnet.com.hk Internet: http://www.hkesmontnet.com.hk
Sinomed: The 9th International Medical Equipment and Facilities Exhibition May 2001 (Annual) China International Exhibition Centre Beijing, China Industries: Social services, ambulatory services, medical technology, information technology	Worldwide Conventions and Expositions Ltd., Suite 611 6/F, Telford House 16 Wang Hio Rd. Kowloon Bay Kowloon, Hong Kong Tel.: (85-2) 2750-2868 Fax: (85-2) 2318-1641 E-mail: info@www-expo.com Internet: http://www-expo.com
PharmaPak June 13-16, 2001 (Annual) Intex Exhibition Centre Shanghai, China Industry/Topic: Pharmaceuticals, personal care	Hong Kong Exhibition Services 9th Floor, Shiu Lam Building 23 Luard Rd. Wanchai, Hong Kong Tel.: (85-2) 2804-1500 Fax: (85-2) 2528-3103 E-mail: exhibit@hkesmontnet.com.hk Internet: http://www.hkesmontnet.com.hk
Medical China June 2001 (Annual) China International Exhibition Centre Beijing, China Industries: Social services, medical technology	CIEC Exhibition Company, Ltd Rm 1909 Harbour Centre, 25 Harhour Rd, Wanchai, Hong Kong Tel.: (85-2) 2827-5078 Fax: (85-2) 2827-5535 Contact: Zheng Shijan

See http://strategis.ic.gc.ca/SSG/he01194e.html for a comprehensive list of international health-care industry events.

KEY CONTACTS AND SUPPORT SERVICES

Canadian Government Contacts

Canadian Commercial Corporation (CCC)
50 O'Connor St., Suite 1100
Ottawa, ON K1A 0S6
Tel.: 1-800-748-8191 or (613) 996-0034
Fax: (613) 995-2121
E-mail: info@ccc.ca
Internet: http://www.ccc.ca

Canadian Consulate, Chongqing
Suite 1705, Metropolitan Tower
Wu Yi Lu, Yu Zhong District
Chongqing 40010, China
Tel.: (86-23) 6373-8007
Fax: (86-23) 6373-8026

Canadian Consulates General

Guangzhou
Room 801, China Hotel Office Tower
Liu Hua Lu
Guangzhou 510015, China
Tel.: (86-20) 8666-0569
Fax: (86-20) 8667-2401

Hong Kong
13th Floor, Tower One
Exchange Square
8 Connaught Place
Central, Hong Kong
Tel.: (85-2) 2847-7414
Fax: (85-2) 2847-7441

Shanghai
Tower 4, Suite 604
Shanghai Centre
1376 Nanjing Xi Lu
Shanghai 200040, China
Tel.: (86-21) 6279-8400
Fax: (86-21) 6279-8401

Canadian Embassy, Beijing
19 Dongzhimenwai Dajie
Chaoyang District
Beijing 100600, China
Tel.: (86-10) 6532-3536
Fax: (86-10) 6532-4072
Contact: Terry Brophy, Commercial Counsellor-Health Industries
E-mail: terry.brophy@dfait-maeci.gc.ca
Internet: http://www.canada.org.hk

Canadian Intellectual Property Office (CIPO)
Industry Canada
Place du Portage 1
50 Victoria St., 2nd Floor
Hull, QC K1A 0C9
Tel.: (819) 997-1936
Fax: (819) 953-7620
E-mail: cipo.contact@ic.gc.ca

Canadian International Development Agency (CIDA)
200 Promenade du Portage
Hull, QC K1A 0G4
Internet: http://www.acdi-cida.gc.ca

Business Co-operation Branch, Bureau for Asia
Tel.: (819) 997-7901
Fax: (819) 953-5024

Contracting Management Division
Tel.: (819) 997-7778
Fax: (819) 994-5395

Industrial Co-operation Program
Tel.: (819) 953-5444
Fax: (819) 953-5024
E-mail: info@acdi-cida.gc.ca

Department of Foreign Affairs and International Trade (DFAIT)
125 Sussex Dr.
Ottawa, ON K1A 0G2

China and Mongolia Division (PCM)
Tel.: (613) 996-6987
Fax: (613) 943-1068
Contact: Cynthia Bernier, Trade Commissioner, Health and Biotechnology Industries
E-mail: cynthia.bernier@dfait-maeci.gc.ca

Market Support Division (TCM)
Tel.: (613) 996-1431
Fax: (613) 943-8820
Contact: Patricia Filteau, Trade Commissioner, Health and Biotechnology Industries
E-mail: patricia.filteau@dfait-maeci.gc.ca

Export Development Corporation (EDC)
151 O'Connor St.
Ottawa, ON K1A 1K3
Tel.: 1-800-850-9626 or (613) 598-2500
Fax: (613) 598-6697
Internet: http://www.edc.ca

Health Canada
International Affairs Directorate, Rm 814A
Brooke Claxton Building
Postal Locator 0908A
Tunney's Pasture
Ottawa, ON K1A 0K9
Tel.: (613) 941-3136
Fax: (613) 952-7417
Contact: Luc Pamerleau
Internet: http://www.hc-sc.gc.ca

Health Canada
Therapeutic Products Program Office
Holland Cross, Tower "B," 2nd Floor
Address Locator: 3102D1
1600 Scott St.
Ottawa, ON K1A 1B6
Internet:
http://www.hc-sc.gc.ca/hpb-dgps/therapeut

Industry Canada
235 Queen St.
Ottawa, ON K1A 0H5

Canada Business Service Centres
Tel.: 1-888-811-1119
Internet: http://www.cbsc.org

Life Sciences Branch
Tel.: (613) 954-3160
Fax: (613) 952-4209
Contact: Natasha Parriag, Co-ordinator, Trade Team Canada Health Industries
Internet: http://strategis.ic.gc.ca/ttchealth

International Development Research Centre
Mailing address:
PO Box 8500
Ottawa, ON K1G 3H9
Street address:
250 Albert St.
Ottawa, ON K1P 6M1
Tel.: (613) 236 6163
E-mail: info@idrc.ca
Internet: http://www.idrc.ca

Canadian Industry Contacts

Canada-China Business Council

Head Office
110 Yonge St., Suite 802
Toronto, ON M5C 1T4
Tel.: (416) 954-3800
Fax: (416) 954-3806
Internet: http://www.ccbc.com

Western Canada Office
515 West Hastings St., Suite 2600
Simon Fraser University at Harbour Centre
Vancouver, BC V6B 5K3
Tel.: (604) 291-5190
Fax: (604) 291-5039

Beijing Office
CITIC Building
19 Jianguomenwai St., Suite 18-2
Beijing 100004, China
Tel.: (86-10) 6512-6120 or
6500-2255 (ext. 1820/1/2)
Fax: (86-10) 6512-6125

Shanghai Office
South Tower, Hong Kong Plaza
283 Huai Hai Zhong Rd
Shanghai 200021, China
Tel.: (86-21) 6390-6791
Fax: (86-21) 6219-3118

Canadian Society of Telehealth
c/o Faculty of Medicine
University of Calgary
3330 Hospital Dr. NW
Calgary, AB P2V 5E6
E-mail: watanabe@med.ucalgary.ca

International Medical Informatics Association (IMIA)
5782-172 St.
Edmonton, AB T6M 1B4
Tel.: (403) 489-4553
Fax: (403) 489-3290
Contact: Steve Huesing, Executive Director
E-mail: hccc@v-wave.com
Internet: http://www.imia.org

Medical Devices Canada (MEDEC)
401 The West Mall, Suite 510
Etobicoke, ON M9C 5J5
Tel.: (416) 620-1915
Fax: (416) 620-1595
E-mail: medec@medec.org

Canadian Commercial Banks in China

Bank of Montreal

Beijing Branch
Bright China Changan Building, Tower One
7 Jianguomennei Ave., Suite 1011
Beijing 100005, China
Tel.: (86-10) 6510-2233
Fax: (86-10) 6510-2234

Guangzhou Branch
T.P. Plaza, 9-109 Liu Hua Rd, Suite 1203
Guangzhou 510015, China
Tel.: (86-20) 8669-5148
Fax: (86-20) 8669-5149

Bank of Nova Scotia

Beijing Representative Office
1205-06 China World Tower
China World Trade Centre
No. 1 Jianguomenwai Ave.
Beijing 100004, China
Tel.: (86-10) 6505-0552
Fax: (86-10) 6505-0553

Chongqing Branch
Unit 501, 5/F, Chongqing Guest House
Commercial Mansion
283 Min Sheng Rd
Chongqing 400010, China
Tel.: (86-23) 6373-3500
Fax: (86-23) 6384-1079

Guangzhou Branch
Unit 1005-1007, Main Building
Guangdong International Hotel
339 Huan Shi Dong Lu
Guangzhou 510098, China
Tel.: (86-20) 8331-2323 or 8331-1310
Fax: (86-20) 8331-1799

National Bank of Canada
NBC in Shanghai
1440 Yan An Rd (C), 4-C
Apollo Building
Shanghai 200040, China
Tel.: (86-21) 6248-2316
Fax: (86-21) 6248-1928

Royal Bank of Canada
Unit 18-20, Level 6, China World Tower
China World Trade Centre
No. 1 Jianguomenwai Ave.
Beijing 100004, China
Tel.: (86-10) 6505-0358
Fax: (86-10) 6505-4206

Chinese Government Contacts

Beijing City Health Bureau
Huaibaishujie No.2
Xuanwu District
Beijing, China
Tel.: (86-10) 6303-0435

China Council for the Promotion of International Trade (CCPIT)/China Chamber of International Commerce (CCOIC)
No.1 Fuxingmenwai St.
Beijing 100860, China
Tel.: (86-10) 6801-3344 or 6803-4830
Fax: (86-10) 6803-0747 or 6801-1370
Contact: Shen Xuejing or Yang Mei
E-mail: ccpitweb@public.bta.net.cn
Internet: http://www.ccpit.org

China National Centre for Biotechnology Development
7B, Zao Jun Miao, Haidian Qu, PO Box 8118
Beijing 10081, China
Tel.: (86-10) 6225-1955
Fax: (86-10) 6225-4106

China National Chemical Import and Export Corporation
Sinochem Tower, A2 Fuxingmenwai Dajie
Beijing 100045, China
Tel.: (86-10) 6856-8888
Fax: (86-10) 6856-8890
Internet: http://www.sinochem.com

China National Instruments Import and Export Corporation
B19, Beisanhuanzhonglu
Beijing 10029, China
Tel.: (86-10) 6204-4190
Fax: (86-10) 6204-3987

China National Pharmaceutical Supply and Marketing Corporation
Chinese Academy of Medical Sciences
9 Dong Dan San Tia
Beijing 100730, China
Tel.: (86-10) 512-7733 ext. 403
Fax: (86-10) 512-4876

Consulates General of the People's Republic of China

Calgary
1011-6 Ave. SW, Suite 100
Calgary, Alberta, T2P 0W1
Tel.: (403) 264-3322
Fax: (403) 264-6656

Toronto
240 Saint George St.
Toronto, ON M5R 2P4
Tel.: (416) 964-7260
Fax: (416) 324-6468

Vancouver
3380 Granville Street
Vancouver, BC V6H 3K3
Tel.: (604) 734-7492
Fax: (604) 737-0154

Department of Health, People's Liberation Army
Bureau of Drugs and Medical Instruments
22 Fuxing Rd.
Beijing 100842, China
Tel.: (86-10) 6821-6117
Fax: (86-10) 6381-2602
Contact: Yuan Tianxi, Director

Embassy of the People's Republic of China
515 St. Patrick Street
Ottawa, ON K1N 5H3
Tel.: (613) 789-9608
Fax: (613) 789-1414

Ministry of Foreign Trade and Economic Co-operation (MOFTEC)
No.2 Dong Chang'an Ave.
Beijing 100731, China
Tel.: (86-10) 6708-1526/7
Fax: (86-10) 6708-1513
E-mail: webmaster@moftec.gov.cn
Internet: http://www.moftec.gov.cn

Ministry of Health (MOH)
44 Hou Hai Bei Yan
Beijing 100725, China

China National Institute for the Control of Pharmaceutical and Biological Products
Tel.: (86-10) 6710-7755
Fax: (86-10) 6701-3755
Contact: Zhou Haijun

Department of International Co-operation
Tel.: (86-10) 6401-2166 or -4337
Fax: (86-10) 6401-4331
Contact: Liu Peilong, Director General

Department of Laws and Regulations
Tel.: (86-10) 6401-9682
Fax: (86-10) 6401-9682
Contact: Cai Renhua, Director

Division of Medical Instrumentation
Department of Planning and Finance
Tel.: (86-10) 6401-1604
Fax: (86-10) 6401-1604
Contact: Lan Wu, Chief

Ministry of Information Industry
13 West Chang'an Ave.
Beijing 100804, China
Tel.: (86-10) 6602-0540
Fax: (86-10) 6601-1370
Internet: http://www.mii.gov.cn

Ministry of Machinery and Electronics Industry
Office of International Co-operation
46 Fuwai Sanlihe Rd.
Beijing 100823, China
Tel.: (86-10) 859-4966
Fax: (86-10) 859-5474

Ministry of Material and Equipment Supplies
25 Yuetan North St.
Beijing 100834, China
Tel.: (86-10) 839-1108/7
Fax: (86-10) 839-1157

Ministry of Science and Technology
C15, Fuxinglu
Beijing 100862, China
Tel.: (86-10) 6851-5544
Fax: (86-10) 6851-2594

National Pharmaceutical Foreign Trade Corporation
38A, Beilishi Lu, Xizhimenwai
Beijing 100810, China
Tel.: (86-10) 831-6572
Fax: (86-10) 831-6571

State Administration of Commerce and Industry
8 Sanlihe Donglu, Xicheng Qu
Beijing 100820, China
Tel.: (86-10) 6803-2233
Fax: (86-10) 6801-0463

State Administration of Entry and Exit Inspection and Quarantine
A10, Chaowai Dajie, Chaoyang District
Beijing 100020, China
Tel.: (86-10) 6599-4212
Fax: (86-10) 6599-4306

State Administration of Import and Export Commodity Inspection (SACI)
13th Floor, Huibin Office Building
8 Beichen, Dong Lu
Beijing 100101, China
Tel.: (86-20) 491-5701
Fax: (86-20) 491-4783

State Administration of Machinery Industry
No. 42 Sanlihe Rd
Beijing 100823, China
Tel.: (86-10) 6859-4970
Fax: (86-10) 6859-3867

State Council Economic and Trade Office
26 Xuanwu Men Xi St.
Beijing 100056, China
Tel.: (86-10) 6319-3569
Fax: (86-10) 6319-3625

State Customs Administration
6 Jiannei Ave.
Beijing 100730, China
Tel.: (86-10) 6519-5244 or -4114
Fax: (86-10) 6519-4004 or -6020

State Drug Administration (SDA)
38A Beilishi Rd
Beijing 100810, China

Department for International Co-operation
Tel.: (86-10) 6831-3344
Fax: (86-10) 6831-5648
Contact: Huang Jiye, Director

Foreign Product Registration Division
Tel.: (86-10) 6831-3344, ext. 0609
Fax: (86-10) 6831-5649
Contact: Chang Yongheng, Director

Medical Device Administration
Tel.: (86-10) 6831-3344, ext. 0616
Fax: (86-10) 6831-5649
Contact: Bu Qicheng, Director General

State Science and Technology Commission
54 Sanlihe Rd
Beijing 100862, China
Tel.: (86-10) 801-2594
Fax: (86-10) 801-2594

China Innovation Centre for Life Science/Administration Office of Research and Development of New Drugs
Tel.: (86-10) 6258-8131
Fax: (86-10) 6258-8131

Chinese Industry Associations

Chamber of Commerce of Medicines and Health
12 Jianguomenwai Dajie 12th Floor
Beijing 100022, China
Tel.: (86-10) 500-1542
Fax: (86-10) 500-1150

China Association of Application and Maintenance Technology of Medical Apparatus and Instruments
No. 27, 4th Floor
Taipingqiao Xiaoqu
Fengtai District, Beijing 100073, China
Tel.: (86-10) 6201-6364
Fax: (86-10) 6201-6364

China Association of Medical Biotechnology
422 Datunli, Asian Games Village
Beijing 100101, China
Tel.: (86-10) 6494-1117 ext. 3220

China Association for Medical Equipment Industry
14th Floor, 38A Beilishi Rd
Beijing 100810 China, Beijing
Tel.: (86-10) 6831-3344, ext. 1610
Fax: (86-10) 6831-5675
Contact: Xu Hong, Vice President

China Chamber of Commerce of Medicines and Health Products Importers and Exporters
8th Floor, 12 Panjiayuan Nanli, Chaoyang Qu
Beijing 100021, China
Tel.: (86-10) 6773-6869
Fax: (86-10) 6773-4768

China Council for Promotion of International Trade (CCPIT)
1 Fuxingmenwai St.
Beijing 100860, China
Tel.: (86-10) 6801-3344 or 6803-4830
Fax: (86-10) 6803-0747 or 6801-1370
E-mail: ccpitwb@public.bta.net.cn
Internet: http://www.ccpit.org

Chinese Medical Association
Department of Foreign Relations
42 Dongsi Xidajie
Beijing 100710, China
Tel.: (86-10) 6525-0394 or 6513-4885
Fax: (86-10) 6512-3754
Contact: Gu Dezhang, Director

China Pharmaceutical Association
A-38 Beilishi Rd
Beijing 100810, China
Tel.: (86-10) 6831-3601

Commission of Science, Technology and Industry for National Defence
Health Department
4 Bei San Huan Zhonglu
Beijing 100101, China
Tel.: (86-10) 6675-0456
Contact: Li Chunhui, Director General

Red Cross Society of China
53 Ganmian Hutong, Eastern District
Beijing 100010, China
Tel.: (86-10) 6512-4447

Prominent Research Centres

Beijing Medical University (Public)
38 Xue Yuan Rd, Haidian
Beijing 100083, China
Tel.: (86-10) 6209-1333 or -1627
Fax: (86-10) 6201-5681
Internet: http://www.bjmu.edu.cn

Chinese Academy of Medical Sciences (Public)
9 Dongdan Santiao
Beijing 100730, China
Tel.: (86-10) 6513-5844
Fax: (86-10) 6512-4876

Chinese Academy of Sciences (Public)
52 Sanlihe Rd
Beijing 100864, China
Tel.: (86-10) 6859-7289
Fax: (86-10) 6851-2458
Internet: http://www.cas.ac.cn/cas.html

Chinese National Institute for the Control of Pharmaceutical and Biological Products
2 Tiantan Xili
Beijing 100050, China
Tel.: (86-10) 6701-7755 or -8094
Fax: (86-10) 6701-3755

Guangdong Provincial Biotechnology Research Institute (Public)
48 Miaoqian Zhi St., Dongshan
Guangzhou 520080, Guangdong, China
Tel.: (86-20) 8775-2955
Fax: (86-20) 8775-2955

Guongdong Techpool Biochem & Pharma Company Ltd. (Commercial)
Hightech Industrial Park
12 Jianzhong Rd.
Guangzhou 51030, China
Tel.: (86-20) 8553-6265
Fax: (86-20) 8553-3852
E-mail: techpool@public1.guangzhou.gd.cn
Internet: http://www.techpool.com.cn

Jinan University Biotechnology Research Institute (Public)
Shipai, Guangzhou 510632
Guangdong, China
Tel.: (86-20) 8522-1983
Fax: (86-20) 522-193

Novo Nordisk Biotechnology Company Ltd. (Commercial)
Beijing Branch, 22 Xinxi Zhonglu
Shangdi Zone, Haidian District
Beijing 10085, China
Tel.: (86-10) 6298-7888
Fax: (86-10) 6298-1281

Zhongshan University Biotechnology Research Centre (Public)
Guangzhou 510275, Guangdong, China
Tel.: (86-20) 8418-0296
Fax: (86-20) 8418-5551

Selected Hospitals

Anhui Medical University No. 1 Hospital
2 Jixilu
Hefei 230022, Anhui, China
Tel.: (86-5) 5126-3411

Beijing Cancer Hospital
52 Fucheng Rd, Haidian Qu
Beijing 100730, China
Tel.: (86-10) 6812-1122

Beijing Friendship Hospital
95 Yongan Lu, Xuanwuqu
Beijing 100050, China
Tel.: (86-10) 6301-4411, ext. 270
Fax: (86-10) 6302-3261

Beijing Hospital
1 Dahua Lu, Haidian Qu
Beijing 100036, China
Tel.: (86-10) 6513-2266

Beijing Medical University's People's Hospital
11 Xizhimen Nandajie
Beijing 100044, China
Tel.: (86-10) 6831-4422

Beijing Post and Telecommunications Hospital
41 Damucang Lane
Beijing 100032, China
Tel.: (86-10) 8806-8177

China-Japan Friendship Hospital
Yinghua East Lu, Hepingli, Dongcheng District
Beijing 100029, China
Tel.: (86-10) 6422-1122

Fujian Provincial Hospital
No. 1 Dongjie
Fuzhou 35001, Fujian, China
Tel.: (86-591) 755-7768

Gansu People's Hospital
96 Donggangxilu, Chengguanqu
Lanzhoushi 730000, Gansu, China
Tel.: (86-931) 828-1911

General Hospital of the People's Liberation Army
28 Fuxing Lu
Beijing 100039, China
Tel.: (86-10) 684-8114 or 688-7329

Guangdong Provincial Hospital
96 Dongchuan Rd
Guangzhou 510100, China
Tel.: (86-20) 8382-7812 or 8188-5739

Hebei Hospital
64 Beimalu Xinhuaqu
Shijiazhuang 05001, Hebei, China
Tel.: (86-311) 704-6996

Heilingjiangsheng Hospital
Xiangfanqu
Haerbin 150040, Heilongjiang, China
Tel.: (86-451) 566-2971

Henan People's Hospital
7 Weiwulu Jinshuiqu
Zhengzhou 450003, Henan, China
Tel.: (86-371) 595-1553

Hubei Medical University No. 1 Hospital
Wuchangqu
Wuhan 430061, Hubei, China
Tel.: (86-27) 887-5766

Hunan People's Hospital
Dongqu
Changsha 410002, Hunan, China
Tel.: (86-73) 122-0851

Inner Mongolia Hospital
Xinchengqu
Hohhot 010020, Inner Mongolia, China
Tel.: (86-471) 496-4477

Jiangsu People's Hospital
300 Guangzhoulu
Gulouqu 210024, Jiangsu, China
Tel.: (86-2) 563-7024

Jilin People's Hospital
57 Shanghailu Changyiqu
Jilinshi 132001, Jilin, China
Tel.: (86-432) 244-4461

Jishuitan Hospital
31 Xinjiekou Dongjie, Xicheng qu
Beijing 100035, China
Tel.: (86-10) 6616-7631

Nanchang No. 1 Hospital
10 Houchianglu Donghuqu
Nanchang 330008, Jiangxi, China
Tel.: (86-7) 9126-5534

No. 1 Hospital of Beijing Medical University
8 Xishiku Ave., Xicheng Qu
Beijing 100034, China
Tel.: (86-10) 6617-1122

No. 3 Hospital of Beijing Medical University
49 Hua Yuan North Rd, Haidian
Beijing 100083, China
Tel.: (86-10) 6238-8404

Peking Union Medical College Hospital
1 Shuaifuyuan, Wangfujing, Dongcheng Qu
Beijing 100730, China
Tel.: (86-10) 6529-6114

Qinghai People's Hospital
441 Gonghelu Chedongqu
Xining 810007, Qinghai, China
Tel.: (86-971) 817-7911

Shaanxi Xi'ian Zhongxin Hospital
Houzaimen Xinchengqu
Xian 710003, Shaanxi, China
Tel.: (86-29) 721-8916

Shandong Provincial Hospital
396 Jingwulu, Huaiyinqu
Jinan 250007 Shandong, China
Tel.: (86-531) 793-8911

Shanghai No. 1 People's Hospital
190 Beisuzhoulu
Hongkouqu 200085, Shanghai, China
Tel.: (86) 324-0100

Shanxi People's Hospital
17 Shuangtadongjie
TaiYuanshi 030012, Shanxi, China
Tel.: (86-351) 404-5761

Shenyang No. 1 People's Hospital
Dabeijie Dadongqu
Shenyang 110141, Liaoning, China
Tel.: (86-24) 8850-4565

Sichuan People's Hospital
Xierduan Yihuanlu Xichengqu
Chengdushi 610031, Sichuan, China
Tel.: (86-2) 811-1760

Tianjin First Central Hospital
154 Anshan Dao
Tianjin 300052, China
Tel.: (86-22) 2336-6914

Tongren Hospital
2 Chongnei Ave., Dongcheng Qu
Beijing 100730, China
Tel.: (86-10) 6529-6114

Yunnan People's Hospital
Jinbilu Wuhuaqu
Kunmingshi 650021, Yunnan, China
Tel.: (86-87) 1316-1031

Zhejiang Medical University No. 1 Hospital
261 Ching Chun Jie Shangchenqu
Hangzhou 310003, Zhejiang, China
Tel.: (86-57) 177-2524

BIBLIOGRAPHY

Print

AFX News. "China, Roche Launch Human Genome Research Project in Shanghai," July 17, 2000.

Agence France-Presse. "China Lets Private Hospitals Fix Prices as Health Market Reforms," August 5, 2000.

AsiaPort Daily News. "Regulations for Joint-Venture Hospitals," July 18, 2000.

Asia Pulse. "China's Crude Drug Production Surges Ahead," July 20, 2000.

———. "China to Convert 100 Scientific Research Bodies into Ventures," July 11, 2000.

———. "China to Reform Medicine Distribution System," July 11, 2000.

———. "China's Trade in Medical Products Grow Faster," August 2, 2000.

———. "Chinese Geneticists to Make Breakthroughs in Research," August 1, 2000.

———. "Tibetan Medicine a Hot Spot of Investment for Western China," August 1, 2000.

Asian Technology Information Program (ATIP). "Developing Biotech in China (Summary)," February 28, 2000.

BBC Worldwide Monitoring. "China: Armed Forces Introduce Three Major Reforms to Logistics Units," June 17, 1999.

———. "China: National Work Conference Discusses Medical Reform," December 8, 1998.

Business Communications Company, Inc. "Telemedicine Opportunities for Medical and Electronic Providers: China," April 1988.

Business Wire. "Commonhealth's Health Learning Systems Division Adds Scientific and Program Development Staff," November 16, 1998.

———. "Cyber-Care and Shanghai Medical Sign Joint Venture Pact to Market Electronic Housecall Systems in Asia," February 18, 2000.

———. "XetaPharm Subsidiary Begins Selling Nutraceuticals in China," August 1, 2000.

Central News Agency (Taiwan). "Health Care in Rural China Said to be Worse than in Sub-Saharan Africa," August 2, 2000.

Chemical Business NewsBase. "Shijiazhuang Pharmaceutical Group, Unigene Laboratories to Form Joint Venture," July 27, 2000.

China Online. "China–999 Group Splits off Business for Listing on GEM," August 3, 2000.

———. "China–Beijing Checks Up on Net Medical Sites, Urges Certificaition," August 5, 2000.

———. "China–China Medicines (Guangzhou) Grows 7 Years in a Row," July 12, 2000.

———. "China–China Releases Interim Adverse Drug Reaction Law," July 13, 2000.

———. "China–Drugsky.com Launches English-language Web site on Chinese Traditional Medicine," July 7, 2000.

———. "China–Interim Laws on the Distribution of Prescription and Over-the-Counter Drugs," July 13, 2000.

———. "China–Pharmaceutical Market 999 Plans Drugstore Chain," August 3, 2000.

———. "China–Shanghai Cuts Prices of 49 Drugs by Average of 25%," July 20, 2000.

———. "China–China to Amend Laws to Regulate Nutritional Supplements Ads," July 14, 2000.

Crawford, Kate. "Medicine to Beam Far Into China," *Sydney Morning Herald*, August 6, 1999.

Department of Foreign Affairs and International Trade. *China and Hong Kong Trade Action Plan* , 1999.

Department of Foreign Affairs and International Trade, Planning and Co-ordination Division (PCMA) and the Canadian Embassy in Beijing. "China Investment Brief 2000," January 18, 2000.

Espicom Business Intelligence. "Country Profile: China," ***medi** STAT*, July 2000.

———. "Market News: China–Health Sector Project," ***medi**STAT* , June 1999.

———. "Market News: China–Medical Reform in Shanghai," ***medi**STAT*, February 1999.

———. "Market News: China–New Hospital Joint Venture Guidelines," ***medi**STAT*, June 2000.

———. "Market News: China–New Urban Medical Insurance," ***medi**STAT*, January 1999.

———. "Market News: China to Develop Medical Research Zone," ***medi**STAT*, June 1999.

———. "Market News: China–World Bank Loan," ***medi**STAT*, February 1999.

———. "Market News: Chinese Health Statistics," ***medi**STAT*, May 2000.

———. "Market News: In Brief," ***medi**STAT*, July 2000.

Frost and Sullivan. "Community Medical Service Project Started in Fujian," *China Medipharm Insights* , January 1999.

———. "New Healthcare Insurance System to Take Effect In 1999," *China Medipharm Insights*, January 1999.

———. "New Ways for Medical Care Explored," *China Medipharm Insights*, January 1999.

Marketletter. "China and Roche Sign Human Genome Accord," July 31, 2000.

———. "China's Changchun Pharma Industrial Park," August 23, 2000.

Page, Jeremy. "Chinese Move Toward Private Health Insurance," *The National Post*, January 18, 2000.

PJP Publications Ltd. "China Reorganises Regulatory Agencies to Streamline Decisions, Cut Costs and Raise Quality," *Clinica: World Medical Device & Diagnostic News* , July 6, 1998.

———. "Chinese Health Spending to Rocket," *Clinica: World Medical Device & Diagnostic News* , November 16, 1998.

———. "Janssen Leads Foreign Firms in China," *Scrip: World Pharmaceutical News* , July 26, 2000.

PR Newswire. "Intelect Announces $1.7 Million Order for LANscape Video in Telemedicine Network," January 15, 1999.

Riddle, Dorothy I. (Service Growth Consultants, Inc.). *Canada–Healthkeeper to the World: Canadian Opportunities in Global Telehealth Markets* , March 1998.

South China Morning Post. "Pharmaceuticals: Joint-Venture All-Clear Ahead of WTO Entry," August 9, 2000.

Thomson Financial Services. "China-Drugs and Pharmaceuticals," *MarkIntel: Global Trade Intelligence* , March 31, 1998.

———. "China's Pharmaceutical Industry," *MarkIntel: Global Trade Intelligence* , August 1, 1998.

U.S. Department of Commerce. "China–Long-Term Prospects," August 30, 1999.

———."China-Medical Equipment: Market Access," January 27, 1998.

Wong, Brian A. and Satyananda J. Gabriel. "The Influence of Economic Liberalization on Urban Health Care Access in the People's Republic of China," 1998.

World News Connection. "Beijing University, Three Macao Firms to Develop Satellite Medical Network," July 24, 2000.

———. "PRC Social Security Minister on Setting up Medical Insurance System in Cities," August 22, 2000.

———. "PRC to Release DNA Sequence Databank on Internet," July 31, 2000.

———. "PRC to Revise Pharmaceutical Administration Law to Control Drug Market," August 21, 2000.

———. "Shanghai to Invest $602 Million in Pharmaceutical Industry Over Five Years," June 27, 2000.

Xinhua. "Chinese Complain About Medicine Prices," July 26, 2000.

———. "Construction of Bio-Park Starts in Xi'an," September 9, 2000.

———. "Li Lanqing Urges to Push Forward Medical Reforms," July 26, 2000.

———. "State Council Discusses Draft Administrative Laws on Tax, Pharmaceutical," July 26, 2000.

Electronic

Chinaeconomy. "9th Five-Year Plan for China's Medical Industry and the Long-Term Plan for its Development by 2010," downloaded from **http://chinaeco.com/emar/htm/c7h00a01.htm** on July 19, 2000.

ChinaSite. "Health and Medicine," downloaded from **http://chinasite.com** on July 18, 2000.

Chinavista. "China's Biotech Sector Accelerated," downloaded from **http://www.chinavista.com/busin ess/news/archive/oct99/oct22-01.htm** on April 1, 2000.

———. "Guangzhou Gets Ready for a Biotechnology Research Base," downloaded from **http://www.chinavista.com/business** on April 1, 2000.

ConsultAsia Inc. (with the support of the Department of Foreign Affairs and International Trade). "China–A Guide to Technology Transfer for Canadian Business," downloaded from **http://www.infoexport.gc.ca/docs/view-e.asp?did=459&gid=15#1** on July 18, 2000.

International Development Research Centre (Canada). "China: Active Projects," downloaded from **http://www.idrc.ca** on July 26, 2000.

People's Republic of China. "Statistical Yearbook," downloaded from **http://www.stats.gov.cn/year book/1999/u11e.htm** on July 26, 2000.

World Trade Center Network. "China: Key Contacts," downloaded from **http://www.wtca.org/ dnb/eeweb/new/CHICONT.HTM** on July 26, 2000.

OTHER REFERENCE MATERIAL

Changing Medical Markets. Theta Corporation. Theta Building, Middlefield, OH 06455; Tel.: (203) 349-1057; Fax: (203) 349-1227.

China MediaPharma Insights. Beijing Cons Bio-Tech Development Company. c/o InTech Trade Inc. Columbus, OH 43220; Tel.: (614) 326-0888; Fax: (614) 451-6563; E-mail: itti@asiawind.com.

Clinica: World Medical Device and Diagnostic News. PJB Publications. 18/20 Hill Rise, Richmond, Surrey, U.K. TW10 6UA; Tel.: (44-181) 948-0751; Fax: (44-181) 332-1245.

Detailed Rules and Procedures for Implementing the Safety License System of Import Commodities. State Administration of Import and Export Commodity Inspection (SACI), A10, Chaowai Dajie, Chaoyang District, Beijing 100020, China; Tel.: (86-10) 6599-4212.

Directory of Foreign Biotechnology and Pharmaceutical Companies Doing Business in China. Hans Consultants Inc. PO Box 71006, Wuhan, Hubei 430071, China; Tel.: (86-20) 787-9357; Fax: (86-20) 7787-8343; E-mail: hyshanco@public.wh.hb.cn.

Medicines Economic News. National Pharmaceutical Administration, Economic Information Center, 6 th Floor, Pharmaceutical Building, #22 Zhanqian Rd, Guangzhou 510160, China; Tel.: (86-20) 667-9726.

Official Customs Guide from the General Customs Administration. Sino Hong Kong International Co., Sing Pao Building 15 th Floor, 101 King's Rd, North Point, Hong Kong; Fax: (85-2) 807-0024.

Wengao Gazette. MOFTEC. No.2 Dong Chang'an Ave., Beijing 100731, China; Tel.: (86-10) 6708-1526/7; Fax: (86-10) 6708-1513; E-mail: webmaster@moftec.gov.cn; Internet: http://www.moftec.gov.cn.
(Note: MOFTEC's Gazette is the official register for publication of all laws and regulations relating to international trade.)

Useful Internet Sites

Business Development Bank of Canada: **http://www.bdc.ca**

Canadian Embassy, Beijing. "China-Hong Kong Factbook: Business Protocol in China": **http://www.canada.org.hk/english/index.html** (Note: Follow the "Factbook" link. This site is very thorough and provides ample information for new and experienced participants in the Chinese market.)

———. "Exporting and Investing: SME Survival Guide to the China Market": **http://www.canada.org.hk/english/index.html** (Note: This Web site offers excellent, comprehensive information on several aspects of marketing products and services in China.)

Canada's Window on China: **http://www.canada.org.hk**

China Council for the Promotion of International Trade (CCPIT): **http://www.ccpit.org** (Note: This site is another excellent source of information on regulations, tariffs, business environment and much more.)

China Daily: **http://www.chinadaily.com**

ChinaE.com: **http://202.103.190.49/en/brower.asp?id=62** (Directory of health-care companies with Internet sites)

China Golden Hospital: **http://www.gm.net.cn** (Health information site, in Chinese)

Chinamarket: **http://www.chinamarket.com.cn** (Posts bidding notices/pre-notices and company information)

China Online: **http://www.chinaonline.com** (Daily news site with industry links)

ChinaPages, China Business Information Resources: **http://www.chinapages.com**

ChinaSite: **http://chinasite.com** (Comprehensive Chinese Internet portal with links to a wide variety of business sectors)

China Tendering (CEINet): **http://www.zei.gov.cn/info-square/cn-tendering/ 199707021-e.htm**

China Today: **http://www.chinatoday.com**

China Trading: **http://www.chinatrading.com**

China-Window: **http://china-window.com/window.html**

Dalian Telemedicine Centre: **/tm.h http://www.geocities.com/Broadway/ 6439 html**

Drugsky.com: **http://drugsky.com/edrugsky/index.html** (Multilingual health information site specializing in Chinese medicine)

eHealthcareAsia (Hong Kong): **http://www.ehealthcareasia.com** (General health information/health business site, also serving as an e-commerce site for health-care aids, medical devices, pharmaceuticals, and health-care services. In Chinese and English.)

ExportSource: **http://exportsource.gc.ca**

Global Telecommunications Partnership Program (GTPP): **http://members.tripod.com/~chenglq**

Greater China Herbs: http://www.greaterchinaherbs.com/english/index.html (Health information site, in English)

Health '99 (Taiwan): **http://health99.doh.gov.tw/Query/Ver2.0/index.htm** (Health information site, in Chinese)

International Financial Institutions: **http://www.dfait-maeci.gc.ca/ifinet**

KingNet Web Hospital (Taiwan): **http://www.webhospital.org.tw/index.htm** (In Chinese)

New Health Web: **http://www.newhealth.com.cn** (Health information site, in Chinese)

SinoMD: **http://www.sinomd.com/english/default.htm** (Traditional Chinese medicine information site for consumer, professional, and commercial applications. In Chinese and English)

Sinosource–Business Directory of China: **http://www.sinosource.com**

South China Morning Post: **http://www.scmp.com/news**

Strategis–Health Industries: **http://strategis.ic.gc.ca/sc_indps/sectors/engdoc/hlnd_hpg.html**

Appendix A: DEMOGRAPHIC INDICATORS OF MARKET SIZE

Table 2. Population by Age Category, 1999 (millions)

	0 to 14	15 to 64	65+	Total
Male	169.2	435.1	39.8	644.1
Female	149.1	408.7	45.0	602.8
Total	318.3 (26%)	843.8 (68%)	84.8 (6%)	1 246.9

Source: *U.S. Central Intelligence Agency: World Factbook , China:* http://www.odci.gov/cia/publications/factbook

Table 3. Population by Region, 1998 (millions)

Region	Total Population*
Northern China (Beijing, Tianjin, Hebei, Shanxi, Inner Mongolia)	142.9
Northeastern China (Liaoning, Jilin, Heilongjiang)	105.7
Eastern China (Shanghai, Jiangsu, Zhejian, Anhui, Fujian, Jiangxi, Shandong)	356.1
South-central China (Henan, Hubei, Hunan, Guangdong, Guangxi, Hainan)	342.9
Southwestern China (Sichuan, Guizhou, Yunnan, Tibet)	165.4
Northwestern China (Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang)	89.1

*Including military personnel

Source: State Statistical Bureau, *China Statistical Yearbook, 1999.*

Appendix B: IMPORT DATA

Table 4. Imports of Medical Equipment, Devices and Supplies, 1997-1999 ($ millions)

HS Code	Description	1997	1998	1999
3005	Wadding, gauze, bandages, etc.	6.7	9.3	13.3
3006	First aid kits, reagents, surgical catgut, cements, etc.	13.7	25.7	29.4
3701.10	Medical X-ray film (flat)	2.5	3.8	11.6
4015.11	Medical/surgical gloves	0.4	0.2	0.5
8419.20	Medical/surgical sterilizers	8.8	11.1	15.5
8713	Wheelchairs (manual and mechanically propelled)	0.4	0.2	0.1
9001.30	Contact lenses	10.5	15.1	16.8
9018.1	ECGs, other electrodiagnostic apparatus	136.7	188.6	297.7
9018.2	UV/IR apparatus	6.6	2.3	7.6
9018.3	Syringes, needles, and catheters	20.1	27.6	56.3
9018.4	Dental instruments	9.3	10.2	17.2
9018.5	Ophthalmic instruments	13.3	19.7	31.8
9018.9	Other medical/surgical instruments and apparatus	170.3	166.4	281.8
9018	Sub-total	356.3	414.8	760.8
9019	Mechano/oxygen/ozone-therapy apparatus	14.6	13.1	22.5
9021.1	Artificial joints and other orthopaedic/fracture	4.2	4.5	14.6
9021.2	appliances	0.5	0.6	0.7
9021.3	Dental fittings (including artificial teeth)	3.3	5.3	9.4
9021.4	Other artificial body parts	0.9	1.7	15.7
9021.5	Hearing aids	3.3	3.0	8.7
9021.9	Pacemakers	1.4	3.1	4.9
9021	Other appliances, worn or carried Sub-total	13.6	18.2	54.0
9022	Medical X-ray apparatus	224.6	301.5	440.7
9402	Medical/surgical/dental furniture	6.3	9.3	18.2
	Total	**658.4**	**822.3**	**1 383.4**

Source: *World Trade Atlas, China-Imports*, July 2000.

Table 5. Imports of Pharmaceutical Products, 1997-1999 ($ millions)

HS Code	Description	1997	1998	1999
3001	Gland, heparin, other similar substances	0.4	1.1	2.9
3002	Blood, vaccines, antisera	27.6	41.2	73.1
3003	Medicaments not for retail sale	28.1	89.9	71.7
3004.1	Penicillin, streptomy	5.4	12.7	21.3
3004.2	Antibiotics	55.8	104.3	104.3
3004.3	Hormones, insulin, adrenal cortex hormone	7.5	19.4	36.2
3004.4	Alkaloids, not including hormones or antibiotics	5.2	9.4	27.7
3004.5	Vitamins	6.3	4.4	7.8
3004.9	Other medicaments for retail sale	181.6	255.7	547.8
3004	Sub-total	261.8	405.9	745.1
3006.60	Birth-control pills	1.3	4.1	5.5
	Total	**319.2**	**542.2**	**898.3**

Source: *World Trade Atlas, China-Imports*, July 2000.

Appendix C: END-USER DATA

Table 6. Institutions and Beds, by Type, 1999

	Institutions	Beds (thousands)
Hospitals	16 678	2 188.7
Urban/Rural Healthcare Centres	50 300	739.9
Clinics	222 000	–
Maternal/Infant Healthcare Centres	2 630	–
Epidemic Prevention Stations	4 023	–
Special Disease Control Centres	1 877	–
Medical Research Institutes	421	–
Medical Colleges/Secondary Schools	643	–
Other	12 428	230.5
Total	**311 000**	**3 159**

Source: Espicom Business Intelligence. "Market News: Chinese Health Statistics," ***medi****STAT*, May 2000.

Table 7. Health-care Establishments by Region, 1997-1998

Region	Health-care Institutions		Hospitals	
	1997	1998	1997	1998
Northern China	46 392	45 092	10 288	10 274
Northeastern China	25 021	25 651	5 612	5 571
Eastern China	79 236	76 829	16 467	16 207
South-central China	71 527	73 016	13 020	16 047
Southwestern China	62 941	63 920	15 133	12 009
Northwestern China	29 986	29 589	7 391	6 973
Total	**315 103**	**314 097**	**67 911**	**67 081**

Source: State Statistical Bureau , *China Statistical Yearbook, 1999.*

READER EVALUATION

Please help the Market Research Centre to produce market reports which meet your information needs by completing this evaluation form and returning it by fax (613) 943-1103. Thank you for your valuable input.

1. How did you obtain a copy of this market report?
   - ☐ InfoCentre FaxLink system
   - ☐ InfoCentre help line
   - ☐ Local government office
   - ☐ Government Internet site
   - ☐ Other: _____

2. How would you describe this market report?

	Strongly agree	Agree	No opinion	Disagree	Strongly disagree
Useful	☐	☐	☐	☐	☐
Complete	☐	☐	☐	☐	☐
Well organized	☐	☐	☐	☐	☐
Well written	☐	☐	☐	☐	☐
Ideal length	☐	☐	☐	☐	☐

3. In what form do you prefer to obtain these reports?
   - ☐ Print
   - ☐ Electronic

4. Based on the information in this report, what specific action(s) does your organization plan to take in this market? Check all that apply.
   - ☐ Seek an agent/distributor
   - ☐ Visit the market
   - ☐ Do more research
   - ☐ Other: _____
   - ☐ Contact Canadian trade office abroad
   - ☐ Participate in a trade show abroad
   - ☐ Nothing

5. What other market reports would be of benefit to your organization? Please identify specific products and countries. _____

6. Which of the following categories best describes your organization? Check one only.
   - ☐ Processor/manufacturer
   - ☐ Trading house
   - ☐ Export service provider
   - ☐ Industry/trade association
   - ☐ Government
   - ☐ Student/academia
   - ☐ Consultant
   - ☐ Other: _____

7. What were your organization's total sales last year, in Canadian dollars?
   - ☐ Less than $10 million
   - ☐ More than $50 million
   - ☐ $10 million to $50 million
   - ☐ Not applicable

Additional comments/suggestions for improvement: _____

OPTIONAL — The name of your organization is: _____